

**MEDICINE BOW NATIONAL FOREST**  
**LAND AND RESOURCE MANAGEMENT PLAN**  
**ANNUAL MONITORING AND EVALUATION**  
**REPORT**  
**FISCAL YEAR 1998**

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**1998 ANNUAL EVALUATION REPORT**  
**LAND AND RESOURCE MANAGEMENT PLAN**  
**MEDICINE BOW NATIONAL FOREST**

**ABSTRACT**

The Medicine Bow National Forest Land and Resource Management Plan (Forest Plan) was approved on November 20, 1985. Subsequently, implementation and Monitoring of the Plan began during 1986. This thirteenth annual report evaluates the results of the monitoring activities that occurred on the Forest during Fiscal Year (FY) 1998, and makes a variety of recommendations to improve monitoring or project activities during future years.

The two primary components of Monitoring are described in Chapter III and IV of the Forest Plan. Chapter III identifies the General Direction and the Standards and Guidelines that must be followed when implementing projects on the ground. The table at the beginning of Chapter III shows the projected cumulative resource outputs, costs, and benefits of implementing the Plan. Chapter IV displays the monitoring requirements for the various resources and public demands of the Forest, and also the amount of Allowable Variance that the outputs can deviate from the stated objectives for each resource.

Monitoring roles and responsibilities range from the Forest Supervisor who provides overall leadership and direction and makes Forest-wide decisions, to District Staff Specialists who implement the District schedule of projects on the ground. The Forest Interdisciplinary (ID) Team coordinates and guides the monitoring program on the Forest, and helps prepare the annual report, which is approved by the Forest Supervisor. Forest users also have an opportunity to provide input to the Monitoring effort by reporting any unique experience or observation that they may have had while on the Forest. These reports are individually investigated and evaluated to determine whether any corrective action is necessary, and also to decide the timing and methods for implementing that action.

Forest Plans are dynamic and can be changed by means of Amendments or Revision (36 CFR 219.10(f)(g)). The intent of this flexibility is to maintain the Plan as current and accurate, in accordance with changing resource conditions and public demands.

There have been 17 revisions to the Medicine Bow Forest Plan. Even so, on October 1, 1991 the Forest Supervisor advised the Regional Forester that plan revision was warranted. Work on revising the Medicine Bow Forest Plan began in late 1992, but was suspended until October 1998 when work on the revision resumed.

An important part of Monitoring and Evaluation is to determine if the resource outputs, costs, and returns predicted in the Forest Plan were achieved. As a result of Monitoring

during 1998, it was determined that the majority of the output objectives shown on Table III-1 of the Plan were accomplished. The Forest Plan Evaluation Table in Section VIII of this report compares the objectives stated in the Plan with what was actually accomplished during 1998. In addition, each of the Monitoring Items that exceeded the Allowable Variance, as stated in Chapter IV of the Forest Plan, is discussed in detail.

Another goal of Monitoring is to determine how well the management Standards and Guidelines and General Direction in Chapter III of the Forest Plan were met. Section IX of this report provides a discussion of the results of Monitoring each of the 50 Items listed in Chapter IV, and any recommendations for changing management techniques or implementation methods in the future.

Personnel from the Regional Office have historically conducted a General Management Review (GMR) of one or more Forests on an annual basis. The purpose of these reviews is to examine overall Forest management and the relationship to the Forest Plan, and then provide recommendations for future actions based on the findings. The Regional Office performed an Integrated Regional Review (new term for GMR) of the Medicine Bow National Forest during August 24 to 28, 1998. A copy of the review results are included in the Appendix. In addition, the Forest normally conducts a review on one or more Ranger Districts to ensure compliance with the Forest Plan. On April 24, 1998, a review was performed on the Douglas Ranger District, which is also included in the Appendix of this report.

Corrective actions identified by the ID Team as a result of monitoring during 1998 are discussed in Section X, Need to Improve Monitoring or Implementation. These changes will be achieved during Fiscal Year 1999, depending upon available funding and personnel.

Section XII, Review of Previous Year Recommendations, was added to the 1991 annual report as a direct result of public comments. This section discusses the changes recommended by the ID Team in the previous year (1997), and what was accomplished during the current year of monitoring (1998).

## **I. INTRODUCTION**

The Record of Decision for the Medicine Bow National Forest Land and Resource Management Plan (Forest Plan) was signed by the Regional Forester on November 20, 1985. Implementation of the Plan began during Fiscal Year 1986. The historic legislative background and evolution of National Forest System Planning is provided in the Preface to the Forest Plan (pages i-x).

One of the requirements of the Forest planning process is a commitment to monitor and evaluate how well the Plan is implemented (36 CFR 219.12(k)). The process also includes making subsequent modifications to the Plan in response to Monitoring and Evaluation. This report documents the results of monitoring during 1998, discusses the evaluation of those results, and describes the rationale for any changes to the Plan that

have been recommended. These changes may occur in the form of an Amendment to the Plan, or to help improve the methods used to implement projects on the ground.

The regulations in 36 CFR Part 219 require that implementation of the Forest Plan be evaluated on a sample basis at intervals specified in the Plan. These specific monitoring requirements are summarized below:

**\*\* A program of monitoring and evaluation shall be conducted that includes consideration of the effects of National Forest management on land, resources, and communities adjacent to or near the National Forest being planned and the effects upon National Forest management of activities on nearby lands managed by other Federal or other government agencies or under the jurisdiction of local governments (36 CFR 219.7(f)).**

**\*\* To determine if conditions or demands in the area covered by the Forest Plan have changed significantly enough to require any revision to the Plan (36 CFR 219.10(g)).**

**\*\* To determine if budgets have significantly changed the long-term relationships between levels of multiple-use goods and services enough to create the need for a "significant amendment" (36 CFR 219.10(e)).**

**\*\* To determine how well the stated objectives of the Forest Plan have been met (36 CFR 219.12(k)).**

**\*\* To determine how closely Management Standards and Guidelines in Chapter III of the Forest Plan have been followed (36 CFR 219.12(k)).**

The Annual Monitoring and Evaluation Report for Fiscal Year 1998 meets the intent of these Regulations, and satisfies the purpose of Chapter IV in the Forest Plan to provide information on the progress toward achieving the goals, objectives, and management requirements (page IV-1). It also provides an important and concise communication link with the public and with other levels within the Forest Service, in order to disclose the effectiveness of implementing the Forest Plan. In addition, it identifies any research efforts that may be needed to improve the Plan, or the methods for implementing resource management activities on the ground.

## **II. MONITORING PROGRAM SUMMARY**

Projects that implement the Forest Plan are monitored on a sample basis and annually evaluated to determine how well the goals and objectives were met, and how effectively the Management Standards and Guidelines protected the Forest resources. It is important to note that monitoring actions are normally planned in areas where projects will occur, in order to detect and mitigate any adverse impacts to the environment. In areas where no project activities are planned there usually is no need to monitor, except to acquire base-line data. Therefore, Monitoring tends to reflect more problems than are actually occurring on the Forest as a whole. The Monitoring Program should be viewed as a

method of determining how well the Forest Plan is being implemented, rather than a system that only identifies problems on the Forest.

The Monitoring Program for the Forest is comprised of two components. The first component relates to the Monitoring Requirements in Chapter IV of the Forest Plan. The Forest ID Team compares the resource output objectives that were predicted and displayed in Table III-1 of the Plan to what was actually accomplished during the Fiscal Year. This output is then compared to the Maximum Allowable Variance for each item listed in Table IV-1 to ensure that the performance was within the specified limits. The Allowable Variance for each monitoring item was developed to indicate how much the measurement is expected to fluctuate. Exceeding the Variance indicates Forest Plan objectives are not being implemented as projected and that further examination of the item is warranted. A table is included in Section VIII of this report to display the comparison for FY 1998.

It is important to recognize that Table III-1 displays "average annual" outputs for the decade, but does not require the stated amount to be achieved each year. Therefore, the most meaningful data is the total output for the ten-year period. Data gathered during the past thirteen years has been used by the ID Team to evaluate each Monitoring Item and formulate conclusions for most Items from the output and expenditure levels that have occurred. The ID Team will continue to monitor these items, evaluate the results, and recommend minor changes until the Forest Plan Revision is completed.

The second component of Monitoring is performed on the ground. This phase of monitoring ensures that implementation of the Standards and Guidelines described in Chapter III is appropriate and effective. Forest resource specialists evaluated a variety of site-specific projects that occurred during 1998. Individual specialist reports about these reviews are available upon request at the Forest Supervisor's Office in Laramie, Wyoming.

The Monitoring Program for implementing the Forest Plan includes activities such as field surveys, data collection, and assembling and evaluating resource information. The total cost to the Forest for Monitoring and Evaluation during Fiscal Year 1998 was estimated at \$ 60,770.00, which is six percent less than FY 1997.

### **III. MONITORING ROLES AND RESPONSIBILITIES**

Forest Supervisor - The role of the Forest Supervisor is to provide leadership and direction, and to also make decisions at the Forest level. The Supervisor is responsible for ensuring that the annual Monitoring Program is performed according to the requirements of Chapter IV of the Forest Plan, and in compliance with current regulations, laws, and Forest Service directives. In addition, the Forest Supervisor approves the Evaluation Report, and certifies that the Forest Plan is sufficient to guide management activities for the succeeding year or identifies and undertakes actions necessary to attain currency and adequacy.

Forest Staff Directors - The role of the Forest Staff Directors is to plan, develop, coordinate, and monitor Forest programs and activities for the Forest Supervisor. They are responsible for assigning specific tasks to the staff specialists, such as compile data, and evaluate and document the results of monitoring. The Directors then review and recommend changes to the Forest Plan or implementation procedures according to the results of the evaluation.

District Rangers - The role of the District Rangers is to provide leadership and direction, and to make decisions at the District level. District Rangers are responsible for project monitoring, which includes reviewing activities on the ground, in order to ensure compliance with the requirements of the Plan. Each District Ranger is also responsible for maintaining the District R2GIS computer database accurately and up-to-date, in order to meet the broad spectrum of resource management needs for information.

Forest Planning Staff - The Forest Planning Staff facilitates the planning, monitoring, and evaluation processes. The Planning Staff Specialist prepares the Annual Monitoring Evaluation Report, maintains the record of any decisions made by the Forest Supervisor due to Monitoring, and prepares and processes any subsequent amendments to the Forest Plan.

Supervisor's Office Staff Specialists - The role of the Staff Specialists is to provide technical assistance and recommendations to the Forest Supervisor. Specialists may participate in ID Teams for the Forest Supervisor, or assist the Staff Directors by providing information and management recommendations for Forest projects. The Specialists may also work with District ID Teams to analyze specific projects and provide recommendations to the District Rangers.

District Staff Specialists and Project Managers - The role of District Staff Specialists and Project Managers is to plan, develop, coordinate, implement, and monitor District projects on the ground. The outputs that result from implementing various projects at the Districts are then combined to form the total accomplishment for each resource program on the Forest. The quality of project implementation and the quantity of the outputs are then compared to the requirements of the Forest Plan.

#### **IV. MONITORING PROGRAM COSTS**

The intent of monitoring the Forest Plan during implementation is to determine how well the stated objectives have been met, and evaluate the effectiveness of applying the Standards and Guidelines. Monitoring activities tend to focus on projects that affect major components of the environment, or in response to the issues, concerns, and opportunities that were identified during the forest planning process. The requirements for Monitoring and Evaluation are stated in Federal regulations at 36 CFR 219.12(k). The three levels of monitoring are described below.

A. Implementation Monitoring - determines if plans, prescriptions, projects, and activities are implemented as designed, and are in compliance with the objectives, Direction, and

Standards and Guidelines of the Forest Plan. The results of this level of monitoring may require adjustments to the Forest Plan Direction, prescriptions, or outputs, or may require changing project plans.

B. Effectiveness Monitoring - determines if plans, prescriptions, projects, or activities are effective in meeting the Management Area Direction, objectives, and the Standards and Guidelines in the Forest Plan. Evaluating the results of effectiveness monitoring may be used to adjust the objectives, outputs, prescriptions, Standards and Guidelines, or mitigation measures stated in the Plan. This would be achieved by a Revision or Amendment to the Forest Plan.

C. Validation Monitoring - is designed to determine whether the initial assumptions and coefficients used during development of the Forest Plan are correct. Evaluating this level of monitoring may result in an Amendment to the Forest Plan, or a recommendation for additional scientific research. This may subsequently lead to recommending changes in laws, regulations, policies, or application models that affect the Forest Plan or project implementation.

Monitoring and evaluation are specific activities that provide information to determine whether programs and projects are meeting Forest Plan direction. Monitoring requires collecting information on a sample basis from the sources stated in Chapter IV of the Forest Plan. Evaluating the results of monitoring helps to determine the effectiveness of the Forest Plan, which may generate the need for an amendment to the Plan, or adjusting the procedures for implementing projects.

Information for many of the Monitoring Items has historically been gathered and reported for individual resource program outputs, such as the Management Attainment Report (MAR) system for the Timber Program. Therefore, information for items such as Timber Stand Improvement (TSI) and Grazing Use was already available for the monitoring report during the first year. When these items became a required part of the monitoring program there was no additional cost to the Forest. Other items, however, were not previously monitored, and when they became required by Chapter IV of the Forest Plan an additional demand on Forest personnel and funds was created. The Forest ID Team has estimated the cost that is directly related to Forest Plan Monitoring for each item described in Chapter IV during Fiscal Year 1998. These costs are grouped by resource and are summarized in the following table:

FOREST MONITORING COSTS	
Resource Program - Fiscal Year 1998	Cost
Recreation	18,000
Visual Resource Quality	1,400
Cultural Resources	5,000
Biodiversity	750
Wildlife	7,800

Fisheries	8,500
Range	8,620
Timber	2,500
Soils	3,000
Water	2,500
Transportation	200
Fuel Treatment	750
Forest Pest Management	750
Lands	500
Special Use Permits	500
<b>TOTAL MONITORING COST:</b>	<b>\$ 60,770</b>

## **V. FOREST PLAN AMENDMENTS**

The Regulations at 36 CFR 219.10(f) allow changes to be made to the Forest Plan; "The Forest Supervisor may amend the forest plan. Based on an analysis of the objectives, guidelines, and other contents of the forest plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the plan. If the change is significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a forest plan. If the change is not significant, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures."

A total of eighteen Amendments have been enacted since the Forest Plan was approved on November 20, 1985. When the decision to revise the Forest Plan was made during 1991, it was also determined that no more changes would be made to the Plan in the form of amendments, unless considered necessary. Forest Plans, however, must be responsive to changing conditions of the land, resource uses, or the social and economic demands of the people (36 CFR 219.1(b)(14)).

As stated in the regulations (36 CFR 219.10(f)), the Forest Supervisor may amend the Forest Plan if needed, but a determination must be made whether the amendment is a "significant change in the plan." In addition, the amendment cannot be implemented until after appropriate public notification and satisfactory completion of the NEPA procedures. The current Forest Plan will continue to be implemented until completion of a significant amendment or revision, including; "at least 30 days after publication of the notice of availability of the final environmental impact statement in the Federal Register (36 CFR 219.10(c)(1))."

No Amendments to the Forest Plan were recommended by the ID Team or implemented as a direct result of Monitoring during Fiscal Year 1998.

## **VI. SIGNIFICANT CHANGES IN RESOURCES OR PUBLIC ISSUES AND DEMANDS**



A Forest Plan is normally revised on a ten-year schedule, or at least every fifteen years. It may also be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the Plan have changed significantly, or when changes in RPA policies, goals, or objectives would have a significant effect on Forest program levels. During the Monitoring and Evaluation process, the Interdisciplinary Team may recommend a Revision of the Forest Plan at any time (36 CFR 219.10(g)).

During the years 1987 to 1991 the timber industry began harvesting a higher amount of timber from the Forest on an annual basis than the historical level due to high market values. In contrast, during 1989 the Forest began selling less timber than the historical level. These two opposing factors created the present situation of the timber supply not meeting the demand. Although the timber output for FY 1998 was again higher than the previous year, the trend of supply not meeting demand is continuing. This is one of the key issues that will be addressed during the Forest Plan Revision Process. Therefore, no changes to the Plan are recommended as a direct result of Monitoring during FY 1998.

Comments received during both National and local public involvement activities indicated that several other issues continued to be controversial during 1998, including; travel management, the suitability of lands for timber harvest and production, the practice of clearcutting, water production and quality, increased competition for recreation opportunities, and roadless area allocation and management. These topics will be considered for inclusion in the Forest Plan Revision process.

The Forest ID Team is responsible for Monitoring the 50 Items listed in Chapter IV of the Forest Plan on an annual basis. The results of Monitoring these Items during 1998, including any recommendations for change, are discussed in Section IX,(5) of this report. Section X includes a list of recommendations made by the ID Team for making changes to the Monitoring Program or implementation procedures. Some of the changes may be accomplished with a minor Amendment to the Forest Plan, while others may require a "Significant Amendment (36 CFR 219.10(f))." Section XI identifies any specific changes to the Forest Plan that have been recommended by the ID Team. These changes will be made following approval of this report, and in compliance with all the NFMA and NEPA procedures. In addition, Section XII provides a review of the recommendations that were made by the ID Team in the Evaluation Report (Section X) for the previous year (Fiscal Year 1997), and what was actually accomplished during the subsequent year (1998).

The Interdisciplinary Team provided the data for the Annual Monitoring Evaluation Report for Fiscal Year 1998, which has been reviewed by the Planning Staff and the Forest Supervisor. It has been determined that no changes related to individual resources or public issues or demands have occurred that would immediately require a Significant Amendment of the Forest Plan. The major issues that have been identified will be analyzed and addressed during the Forest Plan Revision process, which is described in the Regulations at 36 CFR, Part 219.

#### **DECISION TO REVISE/AMEND THE FOREST PLAN:**

The Medicine Bow National Forest and Thunder Basin National Grassland Land and Resource Management Plan (Forest Plan) was approved in November, 1985. The Forest Plan was developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA), as amended by the National Forest Management Act of 1976 and the National Environmental Policy Act of 1969 (NEPA).

Planning regulations [36 CFR 219.10(g)] state that "Forest Plans shall ordinarily be revised on a 10 year cycle or at least every 15 years. It may also be revised whenever the Forest Supervisor determines that conditions or demands in the area...have changed significantly..." On October 7, 1991, the Forest Supervisor informed the Regional Forester that conditions on the Medicine Bow National Forest had changed significantly, and Forest Plan revision was warranted. The changes indicating a need for revision were identified in the Medicine Bow National Forest and Thunder Basin National Grassland Forest Plan Five-Year Review.

Work on revising the Medicine Bow National Forest Plan started in late 1992. In 1993, the consolidation of the Medicine Bow National Forest and Thunder Basin National Grassland with the Routt National Forest was proposed. The Chief of the Forest Service approved the consolidation in February 1995, and the forests were administratively combined. At this time, the Routt National Forest was also in the process of revising its Forest Plan. Accordingly, the interdisciplinary planning teams working on the two Forest Plan revisions were also combined. Because it was not practical for the planning team to work on two plan revisions at the same time and because the Routt revision effort was closer to completion, the Routt Forest Plan revision became the priority. At approximately this same time, the Thunder Basin National Grassland Plan revision was combined with other plan revision efforts occurring on the Northern Great Plains (NGP). This effort is currently ongoing, with the NGP Planning Team stationed in Chadron, Nebraska.

The Routt National Forest Revised Land and Resource Management Plan was completed and the Record of Decision signed in February, 1998. This would have allowed the Interdisciplinary Planning Team to resume work on the Medicine Bow revision, however, the Interior and Related Agencies Fiscal Year 1998 Appropriations Bill (as amended according to Commerce Bill H.R. 2267) contained language that limited spending for forest plan revision activities. Only those Forests with a formally published Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for forest plan revision were authorized to continue with revision. The Medicine Bow had not published an NOI and so was not funded to revise its Forest Plan. In October 1998, eleven Forests approaching the 15-year anniversary of their forest plans were once again funded for revision. The Medicine Bow has resumed work on plan revision.

## **VII. SPECIAL ACTIVITY MONITORING**

Some activities on the Forest receive special attention due to their unique nature or magnitude. An example of a project of special interest was the Cheyenne Stage II Water Diversion Proposal during the early 1980's. This extensive project resulted in a reservoir

and pipeline system for transporting water from the Forest to the City of Cheyenne. Another example was reconstruction of the Battle Lake Highway on the Hayden Ranger District. This was a unique project during the early 1990's because it was a cooperative effort between State and Federal Agencies, and was one of only a few Federally funded highway projects on National Forest lands within the Rocky Mountain Region.

No projects of special interest were monitored on the Forest during Fiscal Year 1998.

## **VIII. COMPARISON OF ANNUAL PROJECTED/ACTUAL OUTPUTS AND EXPENDITURES**

Monitoring data for the years 1986 to 1998 are exhibiting a supply trend for most of the outputs displayed in Chapter III of the Forest Plan. This information helps to evaluate whether the annual outputs are meeting the levels that were predicted in the Plan, or whether a change is needed. An Amendment to the Plan may be necessary in order to balance the supply with demand for some items, or the topic may need to be addressed during the revision process.

The objectives for the Average Annual Projected Outputs displayed on the following pages are from the Forest Plan, Chapter III, Table III-1 (page III-7 to III-11). The following table compares the predicted annual outputs for each resource during the years 1991 to 2000 to the amount that was produced during Fiscal Year 1998, and also shows the calculated percentage difference.

<b>FOREST PLAN EVALUATION TABLE</b>				
<b>Resource Activity</b>	<b>Unit of Measure (M = Thousand) (MM = Million)</b>	<b>1991 - 2000 Average Annual Projected Output</b>	<b>Fiscal Year 1998 Actual Output Accomplished</b>	<b>Percent of Projected Output</b>
<b>RECREATION</b>				
Public Developed	MRVD (1)	173	150	85
Downhill Skiing	MRVD	24	22.2	93
Dispersed(include offroad motorized	MRVD	628	560	88
Off-road Motorized	MRVD	96	107	111
Semi-Primitive Non-motorized	M Acres	178	172	97
Semi-Primitive Motorized	M Acres	203	165	81
Roaded Natural	M Acres	1,214	1,175	97
Rural	M Acres	65	177	272
Urban	M Acres	6	7	117

Trail Const/Reconst	Miles	4.5	3.5	78
<b>WILDERNESS</b>				
Area Managed	M Acres	79	79	100
Wilderness Use	MRVD	11.4	23.8	209
<b>WILDLIFE &amp; FISH</b>				
Winter Range	M Elk	4.0	4.4	110
Carrying Capacity	M Deer	21.5	34.6	161
Structures	Number	44	5	11
Big Game Hunting (2)	MRVD	35.5	38.2	108
Small Game Hunting (2)	MRVD	41.0	40.7	99
Fishing (2)	MRVD	75.5	83.4	111
Nongame Use (2)	MRVD	5.0	8.6	172
<b>RANGE</b>				
Grazing Use	MAUM (3)	252	215	85
<b>TIMBER (Commercial Sale Offerings)</b>				
<b>Sawtimber (4)</b>				
(Chargeable Vol. to ASQ (5))	MMBF	29.3	8.89	30
	MMCF	6.14	1.92	30
<b>Roundwood</b>				
(Nonchargeable Vol. to ASQ)	MMBF	5.0	1.71	34
	MMCF	1.0	0.34	34
<b>Reforestation</b>				
Natural	Acres	2,394	1,764	74
Planting	Acres	120	0	0
Seeding	Acres	N/A	45	N/A
Timber Stand Improvement	Acres	3,076	1,437	47
Firewood (Personal and Commercial)	Cords	22,400	6,073	27

<b>WATER (6)</b>				
Water Yield Increase	Ac/Ft	Baseline	185	N/A
Water Meeting Quality Goals	Water Violations	0	0	N/A
<b>MINERALS</b>				
Review Plans	Op. Plans	924	300	32
<b>HUMAN &amp; COMMUNITY</b>				
Senior Employ. Program	Enrollee Yrs	25	7.0	28
YCC Program	Enrollee Yrs	7	0.0	0
<b>LANDS</b>				
Purchase/Acquisition	Acres	0	0	N/A
Exchange	Acres	160	2,964	1,853
R-O-W Acquisition	Cases	25	19	76
Landline Location	Miles	25	10	40
<b>SOILS</b>				
Resource Improvement	Acres	247	26	11
<b>FACILITIES</b>				
Construction for General Use	Miles	1.0	0.0	0
Reconstruction for General Use	Miles	22.9	0.0	0
Construction for Timber Sales	Miles	34.6	2.0	6
Reconstruction for Timber Sales	Miles	17.0	0.7	4
Construction for	Miles	40.0	0	0

Minerals				
Roads Closed	Miles	33.2	0	0
<b>PROTECTION</b>				
Fuel Treatment(7)	Acres	2,394	49	2
<b>EXPENDITURES (8)</b>				
Total Budget	M Dollars	31,887	14,122	44
Med Bow Budget	M Dollars	15,971	7,393	46
<b>RETURNS TO TREASURY (8)</b>				
Other Than Minerals	M Dollars	1,999	1,015	51
Minerals	M Dollars	12,400	1,124 (9)	9 (9)

1 Thousand Recreation Visitor Days = A recreation visitor day is equal to 12 hours of recreation for one person or one hour of recreation for 12 persons or any combination of use.

2 Wildlife and fishing use figures are also included in dispersed recreation; they are not additive.

3 MAUM = Thousand Animal Unit Months = An AUM is the amount of forage consumed by one mature cow or equivalent in a one-month period.

4 The sale volumes are expressed in both cubic feet and board feet. The Average Annual Projected Output may not be met during any single year, but must not exceed 293.0 MMBF for the 10-year period (1996-2005).

5 This accomplishment only includes timber volume that was actually sold.

6 The total amount of water yield from the Forest is estimated at approximately 1.026 MMac.Ft. (Baseline), depending upon annual weather conditions (Forest Plan, page III-8). The amount of water produced above that baseline level is calculated by the HYSED model according to the amount of vegetation treatment and road construction that occurred on the Forest during the year.

7 The number of acres treated for fuel reduction only.

8 All expenditures and returns are in current year dollars. The total amount is shown for the combined Medicine Bow/Routt National Forest, and for the Medicine Bow portion of the Forest.

9 Current accounting procedures make it very difficult to report actual returns from minerals, because several agencies are involved in the process of recording receipts from different mineral estates. Therefore, the figure shown for Fiscal Year 1998 is only an estimate.

## **IX. FOREST PLAN EVALUATION**

The results of the Fiscal Year 1998 monitoring and evaluation program have been analyzed by the Interdisciplinary Team, in order to determine the amount of significance and the potential need for corrective action. Recommendations by the ID Team have been reviewed by the Forest Supervisor. This evaluation report includes a review and discussion of the questions mandated by the regulations (36 CFR PART 219):

**A. To determine the effects of National Forest management on land, resources, and communities adjacent to or near the National Forest being planned and the effects upon National Forest management of activities on nearby lands managed by other Federal or other government agencies or under the jurisdiction of local government (36 CFR 219.7(f)).**

This requirement is not specifically identified in Chapter IV of the Forest Plan, but it is addressed during the environmental analysis process for various projects that are implemented as part of the Plan. The National Environmental Policy Act (NEPA) requires, "initiate and utilize ecological information in the planning and development of resource-oriented projects (Section 102(H))." The implementing Regulation at 40 CFR 1500.1(c) states, "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." Part of this process is to "Identify environmental effects and values in adequate detail so they can be compared to economic and technical analyses (1501.2(b))."

The environmental effects include, "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative (1508.8)." A cumulative impact is, "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (1508.7)."

The direction stated above is performed during the environmental analysis process prior to implementing any project on the Forest. The resulting analysis is then documented in an Environmental Assessment (EA) or Environmental Impact Statement (EIS). Reviews of these environmental documents during 1998 indicated that all the analyses and documents complied with the requirements of the NEPA, including the disclosure of cumulative effects. An evaluation of the discussions of cumulative effects in these documents revealed that there were no direct effects on adjacent lands, resources, or communities that resulted from any of the specific project proposals. In addition, these

document reviews determined that there were no identifiable effects upon National Forest management due to activities on any nearby lands.

In contrast, however, it has been identified that resource management on the Forest as a whole has had some impact on the social and economic conditions of several local communities. Two resource programs have had the most notable effect on adjacent communities. Recreation use of the Forest has increased during the past thirteen years, which translates into some economic benefits realized by the adjacent communities. Although the amounts of these benefits have not yet been determined, the economic and social aspects of this trend will be analyzed and documented as part of the Forest Plan Revision.

The second factor is the dramatic decline of the Timber Sale Program on the Forest since 1989. The Forest Plan scheduled 284 million board feet of timber for sale during the first ten-year period, but only 166 MMBF were sold. During the second ten-year period (1996-2005; Forest Plan, page III-8) the predicted sale volume is 29.3 MMBF per year, but only 5.6 MMBF were sold in FY 1996, 7.6 MMBF during FY 1997, and 8.9 MMBF during 1998. This translates into a deficit of 65.8 MMBF for the first three-years of the second planning period. The social/economic impacts to local communities due to these factors and other resource management activities on the Forest will be among the major topics that will be analyzed and discussed in the Forest Plan Revision.

**B. To determine if conditions or demands in the area covered by the Forest Plan have changed significantly enough to require revision (36 CFR 219.10(g)).**

The Forest ID Team has evaluated the results of the Monitoring activities that occurred during 1998. The Team concluded that conditions, public issues, or demands have not changed enough on the Forest during the past year to require an immediate Revision or a Significant Amendment of the Plan. However, a previous decision was made during late 1991 that a Revision of the Forest Plan would be completed by the end of 1995. Due to changing circumstances, however, this schedule has been revised (Refer to Section VI of this report).

**C. To determine if budgets have significantly changed the long-term relationships between levels of multiple-use goods and services enough to necessitate a significant Amendment to the Forest Plan (36 CFR 219.10 (e)).**

The average annual budget estimated in the Forest Plan (Table III-1, page III-10) for the period 1991 to 2000 is \$ 15,971,000. Historically, the actual budget for the Medicine Bow National Forest has been about one-half that amount, as displayed in previous Monitoring Reports. During 1993, the Medicine Bow and the Routt National Forests were administratively combined, although the budget allocations continued to be distributed and monitored separately. Fiscal Year 1996, however, was the first year that the budget was allocated to the combined Medicine Bow/Routt Forest, and could not be identified by individual unit. During FY 1998 the budget for each Forest needed to be determined for a separate reporting requirement, thus the following tables display the



projected average annual budget for each resource program for both, the combined Forest and the Medicine Bow portion of the Forest. The estimated budget was derived from each Forest Plan (Med. Bow EIS, pages B-100 to B-102; Routt Plan, page III-9), and then compared with the final budget that was allocated to the Forest for FY 1998.

**FISCAL YEAR 1998 BUDGET FOR THE MEDICINE BOW/ROUTT NATIONAL FOREST:**

Resource Program	Projected Annual Budget	Actual Annual Budget	Percent of Projected
Recreation/Wilderness	3,867	2,493.1	64
Wildlife/Fish	1,152	962.2	84
Range	2,896	1,325.6	46
Timber	9,807	2,539.6	26
Soils/Water	515	487.5	95
Minerals	2,643	538.8	20
Lands	1,216	841.0	69
Facilities	4,614	2,069.4	45
Protection	779	1,025.0	132
General Admin.	4,398	1,839.3	42
TOTAL:	31,887	14,121.5	44

**FISCAL YEAR 1998 BUDGET FOR THE MEDICINE BOW NATIONAL FOREST:**

Resource Program	Projected Annual Budget	Actual Annual Budget	Percent of Projected
Recreation/Wilderness	1,937	1,045.6	54
Wildlife/Fish	577	487.1	84
Range	1,451	790.3	54
Timber	4,912	1,331.9	27
Soils/Water	258	188.4	73
Minerals	1,324	406.4	31
Lands	609	459.1	75
Facilities	2,311	1,124.0	49
Protection	390	519.4	133
General Admin.	2,202	1,041.0	47
TOTAL:	15,971	7,393.2	46

Although the actual budget for certain resource programs was less than what was predicted in the Forest Plan, the actual outputs may have been achieved or exceeded.

While reduced funding is not the only factor that determines whether the resource outputs are achieved for some of the Programs, it is often the primary reason. In contrast, some programs may be fully funded, but still do not achieve the objective for one or more resource outputs. A variety of reasons may cause this situation, depending upon the specific output. Due to funding at levels not commensurate with the projected outputs and other contributory factors, the output objectives were not achieved as predicted in the Forest Plan for the following individual items: Wildlife Structures, Grazing Use, Allowable Sale Quantity, Timber Stand Improvement, Landline Location, Soil and Water Resource Improvement, Forest Road Development, and Fuel Treatment (Refer to Forest Plan Evaluation Table in Section VIII of this report).

The trend of reduced funding for some items has continued for several years, but funding may not be the only reason that the outputs did not meet the objectives. Each of the affected items will be analyzed during the Forest Plan Revision Process to determine any long-term effects, and whether any changes will be necessary. The total budget for the Medicine Bow Forest during FY 1998 was only 46 percent of the amount projected in the Forest Plan. The Forest ID Team and Leadership Team have determined that the budget reductions for the programs have not, "significantly altered the long-term relationship between levels of multiple-use goods and services projected under planned budget proposals, as compared to those projected under actual appropriations (36 CFR 219.10(e))." Therefore, no specific changes to the Forest Plan are needed at this time.

#### **D. To determine how well objectives have been met (36 CFR 219.12(k)).**

The Forest Plan provides long-range management direction in the form of goals and objectives. Goals describe a desired future condition and are expressed in general terms. Objectives are responsive to the goals, and are measurable in both time and quantity. The goals and objectives of the Medicine Bow National Forest Land and Resource Management Plan are stated on pages III-3 thru 5 of the Plan, and page IV-9 of the EIS.

The goal of vegetation management is to provide a Forest environment for the uses that are emphasized and compatible with the Management Area Prescriptions. Vegetation treatment is a tool for achieving and maintaining an ecologically diverse and healthy forest for a variety of resource uses. The condition of vegetation on the Forest influences nearly all other resources and resource uses including; visual quality of the landscape, recreation opportunities, habitat diversity for wildlife, insect and disease susceptibility, availability of wood products, water quantity and quality, amounts and quality of forage for livestock and wildlife, and providing critical habitat for wildlife including Threatened and Endangered Species.

The amount and types of vegetation treatment that was accomplished during 1998 included; 1,459 acres of sagebrush conversion, 113 acres of aspen regeneration, 1,764 acres of reforestation using natural regeneration, 294 acres of timber harvest by clearcutting, 52 acres of timber harvest by partial cutting, and 1,437 acres of Timber Stand Improvement. The table below displays this information for Fiscal Year 1998.

TREATMENT (1)	ANNUAL FOREST PLAN OBJECTIVE FY 1991-2000	ACTUAL FY 1998 ACCOMPLISHMENT
Sagebrush Conversion	19	1,459
Aspen Regeneration	200	113
Conifer Removal from Aspen	200	0
Reforestation - Natural	2,394	1,764
Reforestation - Planting	120	0
Reforestation - Seeding	N/A	45
Harvest by Clearcut	2,039	294
Harvest by Partial Cutting	1,867	52
Timber Stand Improvement	3,076	1,437

(1) Some treatments were contracted during 1998, but may not be accomplished until some time in the future.

Most of the objectives shown on Table III-1, Chapter III (page III-7 to 11) of the Forest Plan were met, while some were dramatically exceeded. The Forest Plan Evaluation Table in Section VIII of this report compares the Average Annual Projected Outputs with the Actual Outputs that were accomplished during 1998, and the percent difference between the two numbers. Chapter IV displays the Allowable Variance, or how much the outputs are allowed to deviate from the stated objectives. Some of the Projected Outputs shown in the Forest Plan are an average for a ten-year period (1991-2000). Therefore, a significant variance may occur in any single year, yet meet or exceed the total predicted output, such as for Monitoring Item 45, Land Exchange.

After thirteen years of implementing the Forest Plan, most of the resource outputs now exhibit an identifiable trend of accomplishment. This information has helped to determine some of the issues that need to be addressed during the Forest Plan Revision process. It will also identify any changes that may need to be made to the Forest Plan in the form of an Amendment prior to completion of the Revision.

The following discussion of nine monitoring items describes the primary factors that caused the Allowable Variance to be exceeded during 1998, and the course of action for any recommended changes. The Items are discussed according to their order of appearance on the Forest Plan Evaluation Table as shown in Section VIII of this report.

#### **Monitoring Item 21: Wildlife and Fish Habitat Improvement**

Allowable Variance = +/- 10 %

Actual Variance = - 89 %

The number of wildlife and fish habitat improvement structures that are annually scheduled in the Forest Plan is 44. During 1998 only five structures were completed. This was primarily due to the reduction in funding for this item and the lack of cooperatively shared projects with outside groups and organizations.

Recommendation: This was the third year that the Ranger Districts were unable to acquire Challenge Cost-Share Program participants to support this item. Both the reduced funding and the lack of Cost-Share participants are beyond the scope of the Forest Plan. The Districts will be encouraged to place more emphasis on acquiring cost-share participants in the future. No changes to the Forest Plan are recommended, however.

### **Monitoring Item 27: Grazing Use**

Allowable Variance = +/- 10 %

Actual Variance = - 15 %

The amount of grazing use on the Forest increased by three percent from 1997 to 1998. The Allowable Variance was again exceeded, and continues to be caused by reasons outside the scope of the Forest Plan. Some of these reasons include; non-use for personal convenience, waived livestock numbers, cancellation of minor levels of use because of permit violations, and reduction of numbers due to overstocked conditions. The most significant factor that contributed to declining grazing use during 1998 was the culmination of several large land exchanges on the Thunder Basin Grassland during the past couple years. This resulted in a reduction in the number of grazing allotments to be administered, and in some cases a reduction in the permitted grazing use due to the change in land ownership.

Recommendation: A reduction in livestock use on the Forest can potentially benefit the land and resources by reducing some impacts. Less competition and demand for forage and water can increase vegetation recovery rates and allow the overall condition of the rangelands to improve. The Forest ID Team has determined that this has no effect on the goals and objectives stated in the Forest Plan. In addition, the amount of grazing use deviated only seven percent more than the Allowable Variance stated in the Plan, therefore, no changes are currently needed. This item may need to be addressed during the Forest Plan Amendment process.

### **Monitoring Item 30: Allowable Sale Quantity (ASQ)**

Allowable Variance = The amount of timber sold cannot exceed or must be less than 5 percent under, the Allowable Sale Quantity for the 10-year period 1996-2005.

Actual Annual Variance = - 70 %

The amount of timber sold during Fiscal Year 1998 did not meet the Annual Allowable Sale Quantity objective stated in the Forest Plan for the tenth consecutive year. The

reason for not achieving the desired output is due to a combination of factors including: the outcome of Administrative Appeals of some decisions; litigation that prevents implementation of some decisions; selecting a project design that has a lower volume output than what was predicted in the Forest Plan Ten Year Timber Sale Schedule (Appendix A); on-the-ground sale layout modifications resulting in less volume in the Timber Sale Contract than the amount determined by the Environmental Analysis process; some Timber Sales being offered but not sold; and projects not being processed through the environmental analysis, public involvement, and documentation requirements of the NEPA process as scheduled.

Recommendation: The goal for this item is for the total amount of timber sold to be within the Allowable Variance for the ten-year period. The variance for a single year, however, may vary considerably because the amount of timber sold can be adjusted during successive years. The total volume deficit for the first 10-year period was 117.91 MMBF from what was predicted in the Forest Plan. The second ten-year planning period began during 1996, and as shown in the Forest Plan (page III-8), the Allowable Sale Quantity increased from 28.4 to 29.3 MMBF per year. Subsequently, the total amount of timber sold during 1996, 1997, and 1998 is 65.81 MMBF less than what was predicted in the Plan. An adjustment to the timber program appears to be necessary, and will be addressed during Forest Plan Revision.

### **Monitoring Item 32: Timber Stand Improvement**

Allowable Variance = +/- 25 %

Actual Variance = - 53 %

The Forest goal for Timber Stand Improvement (TSI) during 1998 was 3,076 acres, but only 1,437 acres were treated, which is 47 percent of the amount predicted by the Forest Plan. The Allowable Variance was exceeded by 28 percent. The lack of accomplishment for this item is partially due to the reduced timber sale program on the Forest since fewer timber sales generates fewer stands needing treatment and less K-V funds.

Recommendation: Timber Stand Improvement includes thinning lodgepole pine timber stands before they reach age 30, in order to achieve stocking control and promote higher growth rates. Lodgepole pine often regenerates too densely after clearcutting or fire, and these types of stands require thinning to prevent a severe reduction in growth. TSI was one of the parameters that was used in the FORPLAN computer model for determining the Allowable Sale Quantity (ASQ) and Long-Term Sustained-Yield Capacity (LTSYC) objectives displayed in the Forest Plan. Without this scheduled treatment, the analysis showed that both the ASQ and LTSYC would be lower than what was predicted.

The SILVA 99 Report for 1998 showed that 7,215 acres of overstocked lodgepole pine stands on the Forest need TSI treatment. It is recommended that planning and budgeting for Timber Stand Improvement be made a high priority by the Districts, in order to

achieve the output objectives stated in the Forest Plan. This problem is related to implementation rather than the Forest Plan, therefore, no change to the Plan is needed.

#### **Monitoring Item 45: Land Exchanges**

Allowable Variance = +/- 50 %

Actual Variance = + 1,853 %

The Forest Plan objective is 160 acres per year, however, 2,964 acres were accomplished during 1998.

Recommendation: Land exchanges are expected to fluctuate. The output for this item was greatly exceeded during the first planning period. One year may result in a single large land exchange, while several other years may pass without any exchanges. No changes to the Forest Plan are needed at this time.

#### **Monitoring Item 47: Landline Location**

Allowable Variance = +/- 25 %

Actual Variance = - 40 %

The Forest Plan objective for this item is 25 miles per year, and 10 miles were accomplished. The reduction in this item was mainly due to a decrease in the allocated budget.

Recommendation: The budget for this item has remained relatively constant over the years, but FY 1998 was an exception. If the reduced funding continues, this item may need to be examined during the Forest Plan Revision, but no changes to the Plan are needed at this time.

#### **Monitoring Item 40: Soil and Water Resource Improvements**

Allowable Variance = +/- 10 %

Actual Variance = - 89 %

The Forest Plan objective for this item is 247 acres per year, and only 26 acres were accomplished. The Forest will be completing fewer soil and water resource improvement projects starting in Fiscal Year 1998, because the Regional Office has changed the method of allocating funds to the Forests. The result on the Medicine Bow Forest is a substantial reduction in funding compared to what was previously received. Subsequently, the number of projects and acres will also be reduced during future years.

Recommendation: In the 1995 Monitoring Report it was recommended that the Ranger Districts report all projects that improve watershed conditions, even if they are intended to achieve other resource goals. This is still being accomplished. If the reduced level of funding continues to affect the outputs of this item, a change to the Forest Plan may be necessary. This will be analyzed during the Revision, and no change is needed now.

#### **Monitoring Item 41: Forest Road Development**

Allowable Variance = +/- 25 %

Actual Variance = - 94 to - 100 %

The stated objectives for this item are listed on page III-10 of the Forest Plan. The reduced outputs of the Forest Road Development Program during 1998 were the result of two primary factors. First, there was a continuing trend of reduced budget allocations for facilities, which limits the capability of the Forest to accomplish these objectives. The other factor relates to the declining timber program on the Forest, which reduces the need for constructing and maintaining these types of roads. No roads were reported as closed during 1998.

Recommendation: The goals and projected budget for this item may need to be adjusted according to the potential change in the Ten Year Timber Sale Program, as described in Monitoring Item 30 (ASQ). This issue may be addressed during the Forest Plan Revision Process, but no change is now required.

#### **Monitoring Item 43: Fuel Treatment**

Allowable Variance = +/- 25 %

Actual Variance = - 98 %

The stated objective for this item in the Forest Plan is 2,394 acres annually for the period 1991-2000, and only 49 acres were accomplished during 1998.

Recommendation: The Allowable Variance for this Item was exceeded by 73 percent. The primary reason for not meeting this objective is due to the reduction in the number and size of timber sales offered during previous years. The number of acres requiring fuels treatment is directly related to the level of vegetation treatment activity that occurs as a result of the timber sale program. This is a problem with implementation rather than the Forest Plan, therefore, no change is needed.

#### **E. To determine how closely management Standards and Guidelines have been followed (36 CFR 219.12(k)).**

The Forest Plan was intended to be dynamic, responsive to changing conditions, and also meet the needs of the American people. Project-level design reports and monitoring

activities indicate that most of the management direction and requirements in Chapter III of the Plan were met during 1998. Each year that projects are implemented on the ground, personnel acquire better knowledge and understanding of the Standards and Guidelines in the Forest Plan. This experience, combined with monitoring and evaluation, helps to improve the quality of resource management on the Forest.

Two levels of monitoring the relationship of managing the Forest to meeting the goals and objectives of Forest Plan Management have been historically used. One level is a general management review by the Regional Office, which monitors and evaluates overall Forest management. The other level consists of a Forest review of general management on the Ranger Districts. One purpose of these annual reviews is to determine if the activities performed at the unit being reviewed are working toward meeting the overall goals of Forest Planning. Both a Regional review of the Forest, and one Ranger District review were performed during 1998 (refer to Appendix A of this report).

#### **Results of Monitoring Individual Items (Forest Plan, Chapter IV).**

Each of the fifty Monitoring Items in Chapter IV of the Forest Plan are listed below. Included is a description of the monitoring activity, the results of monitoring, and a recommended course of action for correcting any deficiencies that were identified by the Resource Staff Specialist.

#### **Monitoring Item 1: Off-Road Vehicle Damage**

Monitoring off-road vehicle (ORV) damage includes field observations by District personnel and reports from the public. Damage (destruction of vegetation and creating ruts that cause erosion) generally occurs under two scenarios. The first situation is when travel occurs off Forest Service Transportation system roads, which may or may not be legal, depending on current area restrictions. The second situation occurs when damage is caused by people driving around obstacles on travelways, such as snow drifts or bog holes. The damage is greatest when the ground is wet, regardless of the situation. This Monitoring Item has described damage related to specific incidents and areas over the years.

The Douglas District reported ORV impacts from new user-created routes in the Cow Creek Mountain, LaBonte Canyon, Bull Gap, and Horseshoe Creek Areas. In an attempt to provide for motorized trail use, approximately 30 percent of the District's level 2 roads had road number signs installed.

The following ORV damage occurred in FY 98 on the Pole Mountain Unit of Laramie District:

1. Near Road 701E - Damage to riparian area.
2. Road 700R - off road driving, also driving on closed roads in the area.



3. Road 702A - Damage to riparian area.
4. Road 700E - Damage to riparian area.
5. Road 700BA - Damage to riparian area.
6. Road 700F - Creating a new road.
7. Devil's Playground - Damage to riparian area.

There were no reports of ORV damage on the main part of the Snowy Range and Medicine Bow Mountains.

The Forestwide Travel Management EA which is currently in draft form will address management problems pertaining to this Monitoring Item. No changes are presently needed.

### **Monitoring Item 2: Trail Condition**

Districts reported the results of trail inspections, which are scheduled annually. The information for these inspections is used to program maintenance work and formulate budget and capital investment proposals.

The Douglas District inventoried and opened the following trails that have been closed for years due to timber blowdown and other debris on the trails; Labonte Trail (FDT 624) for 1.5 miles, and the Lower Roaring Fork Creek Trail (FDT 623) for 2.0 miles.

The Laramie District filed no report for this item.

The Brush Creek/Hayden District filed no report for this item.

Due to the pending revision of the Forest Plan, any changes to this Monitoring Item that may occur as a result of monitoring will be made at that time. No changes are presently needed.

### **Monitoring Item 3: Dispersed Recreation Use and Experience**

Dispersed recreation use and experience is monitored and reported as the number of people-at-one-time per acre (PAOT) annually by area (Management Areas 2A and 3A) during an estimated 100-day season. Forest Plan General Direction (page III-100, 115) specifies, "low to moderate contact with other groups and individuals" in dispersed recreation management (3A and 2A) areas. Visitor use in these areas is recorded at trailheads as trail sign-in sheets. Data has not been analyzed in recent years, but is currently being recorded electronically. More importantly, however, the Forest took statistical samples of visitors in two distinct Geographic Areas, during the summer of 1998:

Geographic Area	People	Total Hours	RVDs
Lower Doug. Creek	3,150	263,133	21,928
Labonte Canyon	3,171	40,719	3,393

Although both areas experienced the same number of people over the course of the summer, their recreation habits were clearly different. Visitors to areas allocated to timber harvesting and wildlife management stayed 84 hours on average (3.5 days). On the other hand, visitors to Labonte Canyon (of which there were more), stayed only 13 hours on average. The difference (other than allocation) in the two sites is proximity to boating and other water-based recreation in the 4B area around Lake Owen, and possibly the ORV opportunities on open timber roads in the area.

Due to changes in demand and management priorities in timber management areas, there is a need to re-visit the Forest Plan allocations during the Forest Plan Revision where dispersed recreation is concerned. No changes are needed now, however.

#### **Monitoring Item 4: Dispersed Campsite Condition**

This Item consists of inventorying the Frissell Condition Class of dispersed (undeveloped) campsites during project analyses, or as scheduled in Chapter IV (page IV-20) of the Forest Plan. Standards and Guidelines (6023, 6197) in Chapter III (page III-22) of the Plan requires that all category 4 and 5 sites must be closed or rehabilitated.

Sites in the Labonte Canyon area were inventoried and evaluated during the dispersed use monitoring effort. Of the 23 sites, none were found to be in a Frissell Condition Class of 5, but half of the sites were in a Class 4 condition. These sites were cleaned, and where necessary, removed or relocated. Most use in this area is in relatively established areas, and removing sites is difficult because users reconstruct the fire pit at or near the same location.

Recently approved budget allocation criteria in the recreation program has prompted a more accurate count of dispersed campsites. The Laramie and Brush Creek/Hayden Ranger Districts made an effort to count these sites and record them using GPS. That data has not yet been compiled, however preliminary estimates indicate there are nearly 4,500 dispersed campsites on the Medicine Bow National Forest. The standards and guidelines for this monitoring item need to be re-evaluated for their effectiveness in the revision of the Forest Plan

#### **Monitoring Item 5: Developed Site Use**

Data for this item is not available for concessionaire sites (campgrounds/picnic grounds, and trailheads/boat ramps). Fiscal Year 1998 was the first year the Forest had developed sites managed by concessionaires. There is a full report on file in the Supervisor's Office which outlines the program. Information that was collected by the Forest Service during the 1998 field season includes visitor center information. On the Brush Creek/Hayden

Ranger District, visitor information centers are available at the Brush Creek Work center, the Encampment Riverside Merchants Association booth, the Kennady Peak Interpretive site, the main office in Saratoga, and the newly opened Sandstone Work Center. In total, the District served nearly 10,000 visitors in 1998.

The Douglas Ranger District has only one visitor center, at the District office where 236 visitors signed in at the desk. These visitation figures could be considered high, as there are no information signs along the interstate indicating Forest Service information.

The Laramie District and Supervisor's Office reported a 36 percent increase over 1997 in visitors at the Summit Visitors Center on Interstate Highway 80 (total for 1998 = 89,423), the Centennial Visitor's Center had 8,000 visitors signed in, and 1,800 visitors signed in at the Forest office in Laramie. No changes to the Forest Plan are necessary at this time.

### **Monitoring Item 6: Developed Site Condition**

Monitoring this item consists of examining and reporting the existing condition of developed recreation sites. The Forest Plan requires that existing facilities be maintained in Condition Class 1 or 2. Sites scheduled for rehabilitation are listed in Appendix I of the Forest Plan (pages I-5,6) and will be analyzed and evaluated prior to project development. In 1998, all Districts updated the list according to the priority of needs for accessibility. The Forest has a signed Accessibility Plan, which directs District schedules for site reconstruction, specifically campsites, trailheads, and toilet facilities. This plan will be used as a guide for distributing concessionaire fees and backlog funds as appropriated by Congress.

Douglas is the only District without the concessionaire program. The Fees for Campgrounds and the Laramie Peak Trailhead Programs were initiated, and compliance is estimated at 80 percent. In 1998, the Laramie Peak trailhead was moved out of the Friend Park Campground, which was expanded from 6 sites to 11 sites. No changes to the Forest Plan are necessary at this time.

### **Monitoring Item 7: Downhill Skiing Use**

During the 1997-1998 ski season, 44,461 tickets were sold at the Snowy Range Ski Area. This represents approximately 22,231 Recreation Visitor Days (RVDs) which is a 5 percent increase over 1997. No change to the Forest Plan is recommended at this time.

### **Monitoring Item 8: Wilderness Use**

The total reported use of wilderness areas for 1998 was 23,800 recreation visitor days. This is consistent with the standards in the Forest Plan. Use levels have remained fairly constant over previous years, and therefore, no change to the Forest Plan is recommended at this time.

### **Monitoring Item 9: Wilderness Campsite Condition**

There were no campsite condition reports filed during 1998. This item needs to be monitored and reported until it can be analyzed during the Forest Plan Revision process. No changes are currently needed.

### **Monitoring Item 10: Adopted Visual Quality Objectives**

The following District projects were reviewed for compliance with the applicable Visual Quality Objectives (VQOs) during the 1998 field season:

#### Brush Creek/Hayden Ranger District:

Snowy Range Project: Two new trailhead parking lots and an accessible toilet were constructed as part of the Snowy Range CIP project, and all the work was performed by contracting. The Tipple trailhead parking lot is located across Highway 130 from the west end of the Lake Marie parking lot. It is well screened from the highway except for one small opening, which could be landscaped with some young spruce/fir trees. With additional screening, the Tipple parking lot could meet the retention VQO. The new Silver Lake trailhead parking lot is also visible from the highway, but planting groups of trees and shrubs between the highway and lot would help to meet the VQO of retention. The newly accessible toilet was constructed in the Mirror Lake picnic ground, and native stone walls were used to blend the toilet with the surrounding visual setting. This facility met the VQO of modification.

#### Douglas Ranger District:

Laramie Peak Trailhead Parking: A new parking lot with access road, and a new segment of the Laramie Peak trail were constructed by the Forest road crew and District recreation and engineering staff near the Friend Park campground. The newly constructed lot reduces congestion at the Friend Park lot and provides more space for vehicles with trailers. The parking lot is not visible from Friend Park, while the access road is only slightly visible. Cleaning up the slash piles adjacent to the parking lot and access road will help the project to meet the VQO of modification. The new segment of the Laramie Peak trail was constructed through a scenic area, and the adjacent vegetation was protected to minimize the visual impact of the trail corridor. Following slash removal along the trail, this portion of the project will meet the VQO of retention.

#### Laramie Ranger District:

Vedauwoo Recreation Complex: The parking lots, roads, trails, picnic sites and camping sites at Vedauwoo were reconstructed during 1997 by contracting. Laramie District recreation and engineering staff installed tables and benches, fire grills, informational signs, and fee tubes during 1998. All the work was designed and performed to fit in with the natural surroundings. The vegetation and rock formations around the parking lots were protected in order to provide screening and maintain the scenic quality. The roads and trails were also done with the intent to minimize impacts to the adjacent vegetation. This project met the VQO of modification.

All the project activities examined on the Forest during 1998 met or exceeded the VQO of the areas, as required in Chapter III of the Forest Plan. No changes are deemed necessary at this time.

### **Monitoring Item 11: Compliance with Cultural Resource Regulations**

Class I inventories were conducted for 176 projects on the Forest to determine the level of compliance with Section 106 of the National Historic Preservation Act. Of these projects, 127 field inventories were performed, which resulted in 349 sites and isolated finds being located, recorded, and evaluated. Several of the projects were out of compliance with Section 106 of the National Historic Preservation Act. No change to the Forest Plan is needed, however, the Line Officers in charge of compliance with the NEPA and Section 106 of the NHP Act need to ensure that all projects on the Forest are completed according to these Federal laws and the Forest Plan requirements.

### **Monitoring Item 12: Protection of Historic Sites**

During FY 1998 the Ranger Districts submitted 176 projects to the Heritage team for cultural resource input into National Environmental Policy Act analysis documents relating to compliance with Section 106 of the National Historic Preservation Act. Of these, 127 projects were determined to be undertakings as defined in 36 CFR 800. These projects resulted in field inventories, and compliance reports being sent to the State Historic Preservation Officer (SHPO). Two programmatic agreements (PA) were negotiated with both the Colorado and Wyoming SHPO and the Advisory Council on Historic Preservation. These PA's were negotiated to allow Environmental Impact Statements to proceed before field inventories could be accomplished. The Forest is in compliance with the National Range PA and Region 2's Memorandum of Understanding (MOU) regarding the effects of range Allotment Management Plans.

Even though they may be necessary to protect other resources, changes to projects after the NEPA decision is made continues to be a problem from a cultural resources perspective. Changes ordinarily require additional, unplanned trips to complete the cultural resource survey, which is inefficient and disrupts an already full schedule. The primary problems during fiscal year 1998 were with changes to road construction and recreation projects. Cultural Resource monitoring identified several modifications which were not brought to the attention of the archeologists for additional ground work. Some of these changes were implemented before cultural clearance was obtained, and were therefore not in compliance with Section 106. Communications with the archeologists need to be improved to limit the risk to cultural resources from changes made as projects are implemented. No changes to the Forest Plan are needed at this time.

### **Monitoring Item 13: Horizontal Diversity**

The monitoring report for Fiscal Year 1992 provided an analysis of the level of horizontal diversity by Ranger District and Diversity Unit on the Forest. A review of reports from 1986 to 1991 was also included. There was no significant change in the amount of

horizontal diversity between 1992 and 1998. The problems inherent in reporting this item (data quality and completeness, and the large number of acres that must change category in order to cause a change in percent) are the same as for previous years. This monitoring item will be evaluated during the Forest Plan Revision process. No change is currently needed.

#### **Monitoring Item 14: Vertical Diversity**

The monitoring report for Fiscal Year 1992 provided an analysis of the level of vertical diversity by Ranger District and Diversity Unit on the Forest. A review of reports from 1986 to 1991 was also included. There was no significant change in the amount of vertical diversity between 1992 and 1998. The problems inherent in reporting this item (data quality and completeness, and the large number of acres that must change category in order to cause a change in percent) are the same as for previous years. This monitoring item will be evaluated during the Forest Plan Revision process. No change is currently needed.

#### **Monitoring Item 15: Aspen Retention**

Site, location, and size-class information for aspen is stored in each Ranger District R2RIS database. The number of acres of aspen in Management Areas 4D (emphasis on aspen management), and the amount of aspen included within other Management Areas comprises the total amount of aspen on the Forest. As the amount of aspen changes as a result of natural succession or project activities, the information is updated in the District databases to monitor and evaluate compliance with the Forest Plan.

The Forest Plan requires the continuous retention of 77,770 acres of aspen on the Forest (page III-87). This amount may vary by plus or minus 10 percent within the 4D Management Area, as stated on page IV-31 of the Plan. The data for FY 1998 revealed that 84,095 acres of aspen are on the Forest, with 73,910 acres in 4D areas. This is less than a five percent deviation from the amount specified in the Forest Plan. This item should be evaluated during the Forest Plan Revision process to ensure that it is valid and relevant to the Forest Plan Standards and Guidelines in Chapter III. No change to the Forest Plan is needed at this time.

#### **Monitoring Item 16: Old Growth Retention**

Information for this item is stored in each Ranger District R2RIS database. During FY 1998 the Districts reported 116,002 acres of old-growth designated on the Forest, which is only 90 acres less than the previous year. This total includes timber stands in Wilderness Areas, stands with an Old-Growth Score Card rating less than 38, and areas designated as corridors that connect old-growth stands. Even with these additional designations, the data indicates that the amount of old growth in 4B Management areas does not comply with the direction stated for this item in Chapter IV of the Forest Plan (page IV-32). The requirement is being met, however, in 3A and 9A Management Areas, and also on a forestwide basis (page III-14,c). The Districts need to complete the task of

designating an adequate number of acres of old growth within 4B Management Areas in order to comply with this Monitoring Item. Old growth will be addressed during the Forest Plan Revision process to ensure accuracy and usefulness. No changes to the Plan are necessary at this time.

### **Monitoring Item 17: Diversity of Coniferous Tree Species**

The information for this item was derived from the District R2RIS databases for 1998, and showed no significant change from the 1992 data. This item should be evaluated during the Forest Plan Revision process to ensure that it is valid and relevant to the Forest Plan Standards and Guidelines in Chapter III. No change is required at this time, however.

### **Monitoring Item 18: Winter Range Carrying Capacity**

The three ranger districts reported varying percentages of field review for the creditable acres of winter range. On the whole, ten percent of the big game winter range was examined by: ocular estimates, shrub measurement transects, range conservation plots, and specific inspection trips. Collectively, the estimate for winter range carrying capacity (winter of 1998 - 1999) totaled: 4,400 elk and 34,600 mule deer/white-tailed deer. Carrying capacity is a measure of the productivity and capability of the range, and not the number of animals that may be present.

The snow-pack for the winter of 1997 - 1998 was above average on most snow measurement courses. Rains came at regularly spaced intervals during late spring and summer. Range conservationists reported forage production for range plants as being good to very good. Shrubbery leader growth was reported as being 3 to 5 inches for bitterbrush, 4 inch willow leaders, and some aspen showing re-sprouting of 20 to 25 inches. Grass vigor was reported as being above average, especially in areas that were prescribed burned during the previous year. Some domestic livestock grazing allotments that received early season grazing were described as showing good, late-season re-growth.

The data gathered during 1998 is continuing to show a trend of achieving the desired results for winter range management, as stated in the Forest Plan. This monitoring item does not appear to require any immediate new research needs. No changes via amendment are indicated. Two items should be addressed at the time of Forest Plan revision: (1) creditable winter range for both mule deer and white-tailed deer on the Thunder Basin National Grassland should be identified, which may influence some evaluation table numbers, (2) this monitoring item should explicitly include or separate mule deer numbers and white-tailed deer numbers.

### **Monitoring Item 19: Snag Retention**

Two of the Ranger Districts reported the results of inspections for the retention of snags in completed vegetative treatment areas. One district reported that no snag monitoring

occurred during 1998 due to the lack of funding. The Douglas Ranger District reported that the effects of the mountain pine beetle outbreak are still supplying a prodigious number of snags. Primary cavity excavators, and secondary nesting birds are doing well in this habitat.

One Ranger District reported success in implementing a "snag farm." This approach, on a silvicultural discrete stand basis, provides for snag succession. The District also reports field trips with researchers from academia and USFS Rocky Mountain lab where this approach was discussed. The snag succession schema provided is consistent with current best knowledge for snag habitat.

This monitoring item does not indicate a need for new research. There is no need for amendment prior to Forest Plan Revision. Discrete silvicultural management of stands can be used to ensure the perpetuity of snag presence in the ecosystem. Silviculturists should be involved to review this methodology, particularly for appropriate stand-size, during the revision.

#### **Monitoring Item 20: Threatened and Endangered Species**

Again during FY 1998, the Douglas District/Thunder Basin National Grassland, was unable to conduct formalized surveys for bald eagle winter roost galleries due to the lack of funding. However, field personnel were able to report anecdotal information of numerous sightings of this Threatened bird. No new roosting sites were located. The limited information indicates that there is no perceived increase or decrease in the use of wintering habitat in the Cheyenne River and Powder River drainages.

The Medicine Bow National Forest is the only forest in Region 2 that has known nesting sites occupied by the bald eagle. The Brush Creek/Hayden RD made efforts to inspect the three known sites. One site fledged a young bird, one was inactive, and the third appears to have been abandoned. This experience is similar to that from previous years on the Thunder Basin National Grassland, where young adult birds seeking to establish nests have made false starts, or abandoned sites for other possibilities.

The Districts were unable to conduct formalized surveys for the endangered Peregrine falcon, but anecdotal information suggests that this bird is occasionally observed as a transient migrant. The high altitudes of the forest lands likely present a harsh climate for nesting sites. The Routt National Forest is the only National Forest in Region 2 that presently has an active peregrine nesting site. This site is approximately seventy-five airmiles to the south of the Brush Creek/Hayden Ranger District.

The two Ranger Districts, which have habitat for the threatened Preble's meadow jumping mouse, reported successful surveys to capture mice and identify possible populations. Genetic samples have been taken to aid in positively identifying these captured mice. The National Forest lands involved are in the "elevational, habitat overlap" with the Western jumping mouse. This species is morphologically very similar to the Preble's mouse. Test results should be obtained during 1999. The Western jumping



mouse was designated an ecological indicator species (Management Indicator Species) in the 1985 Medicine Bow National Forest Plan. The presence of jumping mice is an indicator of the relative health of riparian ecosystems.

The lynx became a "proposed for listing" species in July 1998. The Ranger Districts continue to address this species in biological assessment documents. The Forest does not have a known population, nor documented occurrences of individual animals. Suitable habitat occurs in the various forested habitats, and the presence of the animal is assumed, upon the advice of the U.S. Fish & Wildlife Service.

The Mountain plover became a "proposed for listing" species in February 1999. This species is known to have breeding and nesting sites on the Thunder Basin National Grassland. The Douglas Ranger District has conducted surveys, and even some basic disturbance cause/effect experiments for this species. The known nesting sites appear to be secure.

All Ranger Districts reported activities for USFS Region 2 designated sensitive species. Goshawk surveys revealed many active nests. One District was able to check approximately forty of the known nest territories (this is almost 50 percent of the district's known territories).

The Boreal toad is a USFWS designated "candidate for listing" species. Its status, "warranted but precluded" for listing, and Region 2, sensitive species status, has given it special attention. The Forest has a known breeding site. This site was surveyed, and other surveys done to try to locate more breeding sites. Amphibian surveys located populations of leopard frogs, salamanders, and wood frogs. The wood frog is a R-2 sensitive species. No new populations of Boreal toads were located.

The Region is placing more emphasis on threatened, endangered, and regionally sensitive plants. The Forest is following suit. During the year, surveys were conducted for the threatened Ute ladies-tresses orchid and the sensitive Clustered-lady's slipper. No populations of the orchid were found, but numerous populations of the lady's-slipper were located. At present, there are no known populations of any USFWS designated threatened or endangered plants on the Forest or Thunder Basin National Grassland administered lands.

The Forest continues to meet the provisions of the Threatened and Endangered Species Act of 1973, and also General Direction 0600 (page III-30) of the Forest Plan. No new research is currently identified as being needed to perform this monitoring item. In the eventuality the USFWS designates more threatened or endangered species, research needs will be reviewed. No amendment to the Forest Plan is immediately needed. During the Forest Plan revision process, this item should be considered for expansion to include some monitoring for the Regional Forester's sensitive species, as an identified part of the monitoring item. During 1998, there were no observed significant changes to threatened and endangered species resources or the public's perceived demand for the resource.

## **Monitoring Item 21: Wildlife and Fish Habitat Improvement**

All Management Attainment Report items that were set for FY 1998 were reported as fulfilled for the reporting period. Again for 1998, as has been occurring in recent years, the targets set and accomplished were a predominance of Knutsen-Vandenberg Act funded improvements for timber sale areas. There is a continued lack of funds to accomplish wildlife and fish habitat improvement projects that are outside of Sale Area Improvement (SAI) Plans. Some Challenge Cost Share contributions from private organizations have facilitated some non-structural projects such as prescribed burns. Federal cooperative funding for these prescribed burns has relied upon an assortment of range improvement funds, fuels reduction funding, combined with some wildlife habitat improvement funding. The improvements were predominately non-structural and included: aspen regeneration, seeding of clear-cut timber units, meadow area enhancement, and prescribed burning for shrubbery rejuvenation.

There are no identifiable research needs to continue this monitoring item. No amendment is needed. The Forest Plan revision will likely continue with this item. There is a concern that shrub decadence will increase if a sustained habitat improvement program by prescribed burning is not revitalized. The program for improvements did not experience any significant changes relative to the previous year. The public has not presented any perceived increased demands for this area of endeavor.

## **Monitoring Item 22: Elk Habitat Effectiveness**

All three Ranger Districts reported monitoring information for meeting Standard and Guideline 7031MB (Forest Plan, page III 76). This guideline pertains to the maximum road density within fourth-order watersheds. During FY 1998, all fourth-order watersheds were reported as meeting the applicable standard and guideline.

The more restrictive Standard and Guideline 7063MB (Forest Plan page III-128) pertains to discrete 4B Management Prescription areas. These are wildlife emphasis areas. During monitoring period 1998, the Ranger Districts collectively report only one of these discrete 4B Management Areas as exceeding the road density guideline. Again (as was reported in 1997), the Douglas Ranger District reports a singular 4B Prescription Area that does not presently meet the guideline. However, monitoring indicates that once Knutsen-Vandenberg Sale Area Improvement projects are completed, roads will be closed, and this area also will meet the road density guideline.

The best measure of elk habitat effectiveness is the production of elk. The Wyoming Game and Fish Department still estimates the elk populations in the Snowy Range, Sierra Madre, Laramie Peak, and Pole Mountain elk areas, as being at or above stated objective levels. During 1998, the Department made adjustments (upward) for most of the herd units. These adjustments were made after recent year's sampling/counts brought the Department to the conclusion that the numbers (elk) on the ranges had been under-reported. Consequently, with the reasoning that if the (summer) ranges were producing a higher number of elk, and these wintering elk were acceptable to private holdings, an

adjustment in stated objective numbers was appropriate. The habitat evidently was being effective. The Department established very liberal harvest seasons for the 1998 elk season, and anticipates the same for 1999.

The data and methodology for determining habitat capability and habitat effectiveness, has been changing and evolving as newer research has been completed. The Pacific Northwest Research Lab (USFS) at LaGrande, Oregon will be publishing more from the Starkey Unit elk studies. During Forest Plan Revision, these newer approaches should be evaluated to bring more into elk habitat effectiveness monitoring than the road density approach presently used. Immediate amendment for this item is not presently advisable, due to the revision schedule. There is no significant change in the resource. Public demand for effective habitat and viewable or huntable populations of elk is apparently being satisfied.

### **Monitoring Item 23: Riparian Condition Rating**

During Fiscal Year 1998, range staff specialists on the Medicine Bow/Routt National Forest evaluated riparian vegetation within grazing allotments using utilization and ecological condition factors to determine compliance with the Forest Plan Standards and Guidelines. The Medicine Bow National Forest and Thunder Basin National Grassland contain approximately 56,125 acres of riparian habitat within grazing allotments. The results of this monitoring effort are reported in the table below.

<b>CONDITION OF RIPARIAN VEGETATION WITHIN GRAZING ALLOTMENTS</b>	
<b>FISCAL YEAR 1998</b>	
<b>Description:</b>	<b>Acres</b>
(Brush Creek/Hayden, Douglas, Laramie)	
Total riparian area on Forest:	56,125
(verified plus estimated)	
Area monitored during 1998.	16,032
Area verified meeting Forest Plan Objectives.	3,534
Area estimated meeting Forest Plan Objectives.	21,493
Area verified moving toward Forest Plan Objectives.	2,269
Area estimated moving toward Forest Plan Objectives.	6,847

Area verified not meeting or moving toward objectives.	23
Area estimated not meeting or moving toward objectives.	287
Area of undetermined status.	N/A

Riparian area estimates were derived from the Resource Information System (R2RIS) database for each Ranger District. Riparian areas are considered as inclusions in larger vegetation stands and are displayed as a percentage of that stand, rather than a separate site. More specific information is obtained from the riparian condition rating data in DGRAMIS. This database is used to support the range program, but also contains information related to riparian condition, which was used for completing the table above.

Laramie Ranger District: During 1998 range personnel monitored approximately 12,137 acres to determine the condition of riparian vegetation. About 2,840 acres were verified as being consistent with Forest Plan objectives, while 9,297 acres were estimated as moving toward meeting Forest Plan objectives. No riparian acres were reported as not meeting or moving toward Forest Plan objectives.

Brush Creek/Hayden District: During FY 1998 range personnel identified 22,262 riparian acres distributed throughout forty grazing allotments on the District. A total of 3,895 acres of riparian vegetation were monitored, and the survey showed that 654 acres were verified as meeting Forest Plan objectives. An additional 12,206 acres were estimated as meeting the objectives. Riparian area verified as moving toward meeting Forest Plan objectives were reported at 2,245 acres, while the number of acres estimated as moving toward the objectives was 6,847. Riparian area verified as not meeting/moving toward Forest Plan objectives was 23, and the number of acres that were estimated as not meeting/moving toward the objectives was 287. The number of acres of riparian area in "undetermined status" was not estimated again during FY 1998.

Douglas Ranger District: Range personnel monitored the condition of riparian vegetation on Laramie Peak and the Thunder Basin National Grassland. For those areas monitored, riparian lands verified as meeting Forest Plan objectives on Laramie Peak totalled 31 acres, while the amount of area moving toward the objective totalled 14 acres. The riparian area not meeting the objectives included 13 acres. On Thunder Basin, nine acres were verified as meeting the Forest Plan, and ten acres were verified as moving toward the objective. None of the areas monitored were classified as not meeting or moving toward the objectives on the Grasslands.

#### **Monitoring Item 24: Habitat Capability Trends of Management Indicator Species**

The Ranger Districts annually update their R2RIS databases to reflect the changes to vegetation conditions that have occurred during the previous year, which has been reported as accomplished for FY 1998. The R2RIS databases are used to analyze habitat

capability using HABCAP, a predictive computer model. This model is designed to support the analysis for over twenty vertebrate Management Indicator Species. The results of these analyses are then evaluated for consistency with Standard and Guideline 6289 (Forest Plan, page III-30).

The Medicine Bow/Routt National Forest, during 1998, undertook the task of changing/converting its computer data system from Data General to IBM. This conversion is not complete. Although R2RIS data is in the repository for IBM, the software to make analysis of vegetative changes into formats usable, compatible with previous HABREL/HABCAP programs has not been accomplished. At present, forest-wide analysis cannot be accomplished until the software modifications are made.

Based on previous years' analyses, and comparing the known level of vegetative change that occurred during 1998, inductive reasoning would indicate that any product of HABREL/HABCAP for 1998 would be very similar to previous 1996, or 1997 efforts (if computer capability were fully implementable in the newer IBM system). Therefore, until capability for complete evaluation is restored via the newer system, the previous years' evaluations will be extrapolated into 1998. When full capability is restored in the coming months, the actual evaluation will be made.

Previous years' evaluations by this methodology has indicated that it is likely that all vertebrate species of animals on the Forest are being provided habitat with a least forty percent or more of potential capability. The forty percent capability level was considered adequate to provide for adequate habitat to sustain viable populations of individual species at the time the Forest Plan was developed.

The Douglas Ranger District, which administers Thunder Basin National Grassland, submitted customized reports for many of the Management Indicator Species for the grassland ecosystem. Most of these species are not modeled in HABCAP, as the model concentrates on forested habitats. These narratives indicate a year of improved habitat capability for most species. For example, assessments indicate that for 1998, approximately 19,054 acres of black-tailed prairie dog towns exist on the unit, as compared with 18,477 acres identified for 1997. This species was petitioned for listing. On March 25, 1999, the US Fish and Wildlife Service published a Federal Register finding that a status review is being initiated to determine if a petition action is warranted. This review should be completed in about a year.

Habitat capability is summarized as increasing for: bald eagle, black-footed ferret, black-tailed prairie dog, and Mountain plover. Habitat capability was described as stable for: sage grouse, ferruginous hawk, mule deer, the plains, Rochelle Hills elk herd, mule deer, and pronghorn antelope.

In summary, the Medicine Bow National Forest and Thunder Basin National Grassland are providing managed wildlife habitat at the ecosystem level. This managed habitat is believed to be sufficient to maintain viable populations of existing native and desired non-native vertebrate species in the planning area.

Habitat capability measurement methodology is a previously (past years' monitoring reports) identified, National level, research need. Given the schedule for Forest Plan revision, no amendment to this monitoring item is immediately needed. This Monitoring Item definitely should be reviewed for utility and confirmed, modified, or changed completely at time of Revision. During this monitoring period, there apparently has been no significant change to the resource or in public demand for the resource.

### **Monitoring Item 25: Colorado River Cutthroat Trout (CRCT).**

During fiscal year (FY) 1998, approximately ten miles of the upper Little Snake River drainage (Mill Creek, Haggarty Creek, Belvedere Ditch, West Branch, North Fork Little Snake, Deadline Creek, Rabbitt Creek, and Roaring Fork) was inspected in order to document several concerns; time-of-spawning of CRCT in Belvedere Ditch, presence of CRCT in Haggarty Creek and two tributaries, the presence of brook trout in the West Branch, and the presence of brook trout in Mill Creek.

Electrofishing monitoring (FS and WG&FD) in Mill Creek (approximately two miles) revealed that the gabion fish barrier was damaged and that adult brook trout were breaching the barrier to spawn upstream of the barrier site. At least two year-classes (0+, 1+) of brook trout were found in Mill Creek upstream of the fish barrier. As an emergency measure, the gabion fish barrier was reconstructed in September 1998 to prevent additional spawning by brook trout in fall 1998. The gabion fish barrier was successfully reconstructed.

Haggarty Creek and several tributaries were monitored in FY 98 to determine the presence of relic populations of CRCT and to determine where brook trout were located in the drainage. Forest Service personnel, in cooperation with a Wyoming Game and Fish Department fish crew (Green River), electrofished approximately 1.5 miles of Haggarty Creek and three tributaries (Alisha Creek, Green Creek, and Bachelor Creek). Relic populations of CRCT were found in Green Creek. No brook trout or CRCT were found in Haggarty Creek upstream of the Haggarty Creek/Alisha Creek confluence. CRCT are extant in Haggarty Creek downstream of Wyoming Highway 70 (Battle Highway), though their genetic purity is undocumented.

The West Branch, North Fork Little Snake River (West Branch) was monitored in FY98 (FS and WG&FD) to determine if substantial numbers of brook trout remained in the stream after three consecutive years of chemical treatment. Approximately 4.5 miles of the West Branch were electrofished. Only three brook trout were found in the stream. Subsequently, wild, genetically-pure CRCT were placed in the West Branch; the fish came from a portion of the West Branch upstream of the Cheyenne Stage II water diversion structure. CRCT have not inhabited the West Branch (between the gabion fish barrier and the Stage II structure) in over three years.

In the Roaring Fork, Little Snake River (Roaring Fork), approximately two miles of stream were electrofished (FS and WG&FD) to determine the location of brook trout in preparation for chemical treatment. Brook trout were located in the Roaring Fork and that

location was chemically treated to eradicate them from the treated area. An additional chemical treatment will be conducted in the same location in the summer of 1999.

Essentially all of the CRCT monitoring work accomplished in FY98 was completed in cooperation with the Wyoming Game and Fish Department. In the summer of 1999, cooperative monitoring efforts between the FS and the WG&FD will continue. At this time, no change is recommended to the existing Forest Plan as it pertains to CRCT monitoring.

### **Monitoring Item 26: Common trout Species**

**Brush Creek/Hayden Ranger District:** In FY 1998, brook trout (common trout) were monitored in the Sierra Madre as part of the CRCT restoration program. No common trout (brown trout, rainbow trout, and brook trout) were monitored on the District outside of the Sierra Madre, west of the Continental Divide. Amphibian populations were monitored (about 50 acres) to determine the presence/absence of several Region 2 "sensitive" species; boreal toad, wood frog, northern leopard frog, and tiger salamander. The U.S. Fish and Wildlife Service amphibian survey protocol was used to monitor several wetland/riparian areas that had previously been examined for amphibians (Long Lake area). No boreal toads, northern leopard frogs, or tiger salamanders were found during the monitoring, but wood frogs and boreal chorus frogs (not "sensitive") were located and appeared to be doing well.

**Laramie Ranger District:** Albany South Twin Lake was monitored in FY 1998 to determine if the spawning habitat enhancement project implemented the previous fiscal year was successful. Gravel-sized substrate placed in the outlet of the lake remained in place after spring runoff and appeared sediment-free. It could not be determined if trout in the lake were presently using the gravel spawning areas. The project will again be monitored in the summer of 1999.

**Douglas Ranger District:** The District wildlife biologist continues to cooperate with the WG&FD to monitor warm water impoundments to determine their utility as sport fisheries and wetland habitats. Although a few of the impoundments (Turner Reservoir and East Iron Reservoir) receive relatively heavy fishing pressure and have experienced some slow fish growth, these impoundments are stocked by the WG&FD and continue to be popular with the local anglers. No change to the Forest Plan is recommended in relation to this item.

### **Monitoring Item 27: Grazing Use**

The Forest utilizes a database program called FSRAMIS to monitor permitted and actual grazing use on National Forest System lands. Forest Service Handbook 2209.12 provides details about the FSRAMIS program. Actual grazing use is evaluated to ensure that Forest Plan Direction is followed. Livestock grazing use must not deviate more than 10 percent from the Forest Plan objective of 252,000 AUMs annually between the years 1991 and 2000. The table below shows the results of monitoring actual use during 1998.

Total AUM's Forest Plan	Total AUM's F.Y. 1998	Percent Deviation From Forest Plan
252,000	215,354	- 15

Actual grazing use for 1998 was three percent higher than the previous year, but there continues to be a slow overall trend of declining use for a variety of reasons. Some of the reasons include, non-use for personal convenience, waived livestock numbers, cancellation of partial and total permitted use because of permit violations, and reduction of numbers due to overstocked conditions. The Allowable Variance for this Item is only five percent more than permitted by the Forest Plan, therefore, no change is required at this time. This item may be addressed during the Forest Plan Revision process.

### **Monitoring Item 28: Forage Utilization**

This Monitoring Item requires examining 20 percent of the range allotments on the Forest annually. Measurements are normally made in areas of heaviest use, or key areas. Utilization levels must not exceed 10 percent of the allowable use guides for the grazing systems and range types shown in the Forest Plan (Chapter III, pages III-37 to 41). The results of monitoring forage utilization during 1998 are shown below.

Total allotments on the Medicine Bow NF 300

Allotments monitored 92

Percent of total allotments monitored 31

NOTE: The total number of allotments includes only those with grazing permits and allotments that are currently vacant. It does not include special use pastures or other use areas.

Ranger District	Total Allotments on the District	Number Allotments Monitored FY 98	Number of Allotments Not Meeting Plan
Brush Creek	15	7	0
Hayden	26	24	0
Laramie	21	13	0
Douglas	238	48	0
Forest Total	300	92	0

The data reveals that all 92 allotments that were monitored met the Forest Plan requirements for utilization, which continues the improvement shown during previous years. An analysis of the data for these allotments indicates that most of the upland areas were utilized properly, or under-utilized. Several Districts required removal of livestock when proper use was reached in the riparian areas. The data suggests that improved



management (better distribution, salting, water development) are resulting in proper utilization of riparian areas. The Forest Plan Standards and Guidelines for utilization need to be reviewed during the Revision process to determine if they are still appropriate. No changes are required at this time.

### **Monitoring Item 29: Range Condition and Trend**

This Monitoring Item requires that 10 percent of the range allotments on the Forest be examined to determine the trend in range condition on an annual basis. The objective is to identify the condition trend in relation to the Desired Future Condition or Desired Plant Community. The techniques for monitoring are described in the Range Ecosystem Analysis Guide and involve the use of benchmarks. Benchmarks are small areas where long-term trend studies are established and maintained so that the manager can assess the resource impacts due to various activities. They are used as reference points that are sensitive to management changes, and may consist of permanent transects, paced-transects, or range-trend sampling by photographs. Benchmarks are placed in primary range areas, or those areas which produce or are capable of producing desirable forage, and are predicted to improve as a result of proper management.

The table below shows the results of monitoring range condition trend during Fiscal Year 1998.

Total allotments on the Medicine Bow NF 300

Allotments where trend was measured 37

Percent of total allotments monitored 12

Number of allotments with declining

range condition trend 0 Reported

Ranger District	Total Allotments	Allotments Monitored	Declining Trend
Brush Creek	15	6	0
Hayden	26	6	0
Laramie	21	8	0
Douglas	238	17	0
Forest Total	300	37	0

The Forest met the requirement for monitoring 10 percent of the range allotments, and none of the allotments were in a declining trend. New methods have been developed to represent vegetation management, because it often takes decades to measure any appreciable change in range condition. A range examiner expected to interpret range trend must be highly trained and able to examine and compare years of previously

collected data. Annual fluctuations in climatological events further complicate determining any trend on an annual basis. Trend studies every 3-5 years would be sufficient to monitor changes in range condition. These studies should be focused on allotments that have had declining range condition where improved management has been initiated to verify that range condition is improving. This subject may be addressed in the Forest Plan Revision process, however no change is presently required.

### **Monitoring Item 30: Allowable Sale Quantity (ASQ)**

The Allowable Variance for this item is, 5 percent under 284.0 MMBF for the 10 year period 1986 - 1995. The total volume that was sold during the first planning period was 166.1 MMBF, which is only 58 percent of the total ASQ that was predicted in the Forest Plan (page II-12, page III-8).

Fiscal Year 1996 initiated the second ten-year planning period, and the predicted output increased to 293.0 MMBF. The Forest sold 5.61 MMBF during FY 1996, 7.6 MMBF during 1997, and 8.89 MMBF during 1998. This already creates a deficit of 65.81 MMBF for the first three years of the second planning period. Although this deficit can be retrieved during succeeding years, the trend of not meeting the ASQ has persisted. Both the Allowable Sale Quantity and the Long-Term, Sustained-Yield will be examined during the Forest Plan Revision process to determine if any change is needed.

### **Monitoring Item 31: Restocking of Harvested Areas**

The R2RIS database for each Ranger District was used to determine how many acres were harvested during 1993. The total area treated for this item includes the clearcut, seed-tree, removal, and selection harvest methods. The District databases were used to determine how many acres were surveyed during 1998, and to determine how many acres were certified as satisfactorily restocked, as required by NFMA. The table below summarizes the information obtained from the R2RIS databases.

Forest Total:	Acres Harvested During 1993	Total Acres Surveyed	Acres Certified as Stocked	Total Acres Nonstocked
Forest Total:	1,485	1,485	1,423	62

The above data shows that 1,485 acres were treated during 1993 and required a survey during 1998. The Forest Plan (Monitoring Item 31) requires that not more than five percent of the acres surveyed may be in the nonstocked or inadequately stocked category at the time of the fifth-year survey for areas regenerated by natural means. The data reveals that a total of 62 acres were not certified during the fifth-year survey. This is 4.2 percent of the acres harvested, and within the Allowable Variance for this item. The conditions on the Forest listed below helped to contribute to the lack of compliance with this Item:

- 1) Inadequate seed sources due to non-serotinous cones and low seed production.

- 2) Unsuccessful scarification resulting in less exposed mineral soil for successful seed germination.
- 3) Low seedling survival due to: a) trampling by livestock, b) severe weather conditions, c) competition with other plants on dry, low-elevation sites.
- 4) The lack of germination, or a high rate of seedling mortality due to high temperatures and dry site conditions on southern aspect slopes.

During 1999, the silviculturist on each Ranger District will survey and analyze each area that was not adequately regenerated and prescribe corrective action. These actions will be reported in future Monitoring reports. The factors listed above are related to implementation, rather than the Standards and Guidelines of the Forest Plan. Therefore, no changes are recommended at this time.

### **Monitoring Item 32: Timber Stand Improvement**

The projected average annual output for Timber Stand Improvement in the Forest Plan during the period 1991-2000 is 3,076 acres. The total number of acres accomplished during 1998 was 1,437, which represents 47 percent of the predicted amount. This exceeds the Allowable Variance by 28 percent. The SILVA 99 REPORT for FY 1998 showed a total of 7,215 acres of thinning and release treatment is still needed on the Forest. This level of activity is not sufficient to reduce the total treatment needs on the Forest. This is a problem of implementation rather than the Forest Plan, and no changes are needed.

### **Monitoring Item 33: Clearcut Unit Size**

During 1998, the Districts entered data into their R2RIS databases that showed 294 acres were clearcut in 8 different units. The smallest unit recorded was two acres and the largest unit was 120 acres, while the average clearcut unit was about 33 acres. The 120 acre unit was approved by the Regional Forester following a 60-day public review, and was designed to enhance and improve wildlife habitat. The result of monitoring indicates that other proposed and actual clearcuts on the Forest are within the Allowable Variance, or have been approved by the Regional Forester, as required by both the NEPA regulations and Chapter III (page III-46) of the Forest Plan. No adjustment to the Plan is currently needed.

### **Monitoring Item 34: Created Openings**

During 1998, all proposed vegetation treatments that would create openings were reviewed for compliance with Management Prescription 07E, General Direction 1066MB, and Standard and Guideline 6014 and 6316 in Chapter III of the Forest Plan (pages III-193 to 196). All openings created during 1998 met this management direction, therefore, no change to the Forest Plan is necessary at this time.

### **Monitoring Item 35: Lands not Suited for Timber Production**

This item is annually monitored and reported, as required in Chapter IV of the Forest Plan (page IV-51). This also meets the intent of the regulation at 36 CFR 219.27(c)(1), "No timber harvesting shall occur on lands classified as not suited for timber production pursuant to S. 219.14 except for salvage sales necessary to protect other multiple-use values or activities that meet other objectives on such lands if the forest plan establishes that such actions are appropriate."

Timber was commercially harvested from only 3 acres of lands classified as unsuitable for timber production during 1998, which was approximately one percent of the total acres treated on the Forest. This treatment occurred on the Brush Creek/Hayden District, and was designed to develop wildlife habitat. All the timber harvest activities were in compliance with Chapter III of the Forest Plan, and the direction stated above. No changes to the Plan are deemed necessary at this time.

### **Monitoring Item 36: Water Yield**

The Forest annually monitors the increased water yield that occurs as a result of timber harvesting and other vegetation treatments. Timber harvest data was extracted from each Ranger District R2RIS database to determine the total amount of water yield during Fiscal Year 1998. Using the HYSED II hydrologic computer model, the amount of increase above the baseline level for the Forest was calculated to be only 185 acre-feet. Compared to the baseline water yield of 1.017 million acre-feet produced from the Forest each year, the increase in the volume that is reported for a single year is insignificant. Monitoring the amount of water yield increase for this Item may need to be adjusted or eliminated for the following reasons:

The magnitude of the units involved (millions of acre-feet).

The large range of acceptable variation (+ or - 25 percent).

The small proportion of the Forest vegetation treated annually.

The issue of timber harvest will be addressed during the Forest Plan Revision process, and will include a discussion of the relationship of water yield to the level of harvest during future years. No adjustment to the Forest Plan is necessary at this time.

### **Monitoring Item 37: Sediment Threshold Limits**

Stream channel stability may be altered at some locations as a result of water yield increases. Hydrologic modeling (HYSED) was used to predict sediment levels for each project that was implemented on the Forest during Fiscal Year 1998. It was determined that no watershed exceeded the geomorphic threshold limit for sediment. Timber harvest resulted in some increases in the amount of sediment at isolated locations, but the levels

did not exceed the Standards and Guidelines stated in Chapter III of the Forest Plan. Therefore, no change to the Plan is needed at this time.

### **Monitoring Item 38: Water Quality**

There were no identified water quality violations recorded on the Forest again during 1998. The historic violation at the old Ferris-Haggerty copper mine was corrected by a Federal reclamation project, which is continuing. Both Forest and District Hydrologists will continue to analyze each proposed project to ensure water quality protection. Soil and water mitigation measures within project areas will be monitored during and after implementation to determine the effectiveness for protecting water quality. No changes to the Plan are needed at this time.

### **Monitoring Item 39: Soil Erosion**

Several ground disturbing projects were monitored during Fiscal Year 1998, including the effects of grazing and several timber sales. The Forest Soil Scientist or District Watershed Staff visually inspected the affected areas, and compared the mitigation measures with the observed erosion control effectiveness. In general, the Forest is meeting the requirements for soil protection, as stated in the Forest Plan. Therefore, no change to the Plan is necessary at this time.

### **Monitoring Item 40: Soil and Water Resource Improvements**

The Forest accomplished a total of 26 acres of soil/water improvements during 1998, which is only eleven percent of the Forest Plan objective of 247 acres annually. This was due to the Regional Office changing the method of allocating funds to the individual Forests, which resulted in the Forest receiving significantly less funding for this program than previous years. This trend is expected to continue, and may need to be addressed in the Forest Plan Revision, however, no adjustment is currently needed.

### **Monitoring Item 41: Forest Road Development (Arterial & Collector)**

Due to the low level of the timber program on the Forest again during 1998, there were few accomplishments of construction/reconstruction of roads for timber sale projects. In addition there was no construction of roads for general use. There were 2.0 miles of road constructed and 0.7 miles of road reconstructed for timber sales, while no roads were obliterated during 1998. No change to the Forest Plan is deemed necessary at this time.

### **Monitoring Item 42: Trail Construction and Reconstruction**

This item consists of annually reporting the total number of miles of trails constructed or reconstructed on the Forest. Only the Douglas Ranger District reported a total of 3.5 miles of trail reconstruction completed during 1998. Two trails that had been closed for several years due to blowdown and other maintenance needs were reopened; Labonte

Trail (FDT 624) 1.5 miles, and the Lower Roaring Fork Trail (FDT 623) 2.0 miles. No change to the Forest Plan is needed at this time.

#### **Monitoring Item 43: Fuel Treatment**

During 1998, the Districts treated the debris that was left as a result of various vegetation management activities. Accomplishments were recorded in the R2RIS database and the annual SILVA 99 REPORT. The total amount reported was 49 acres, which is 2,345 acres less than the amount required by the Forest Plan (page III-10). This level of accomplishment was 98 percent less than the scheduled objective and exceeded the Allowable Variance by 73 percent, and a continued decline from previous years. This item is dependent upon the amount of timber harvest, and is not related to the Forest Plan, therefore, no change is currently needed.

#### **Monitoring Item 44: Forest Insects and Diseases**

This monitoring item is partially dependent upon aerial surveys and ground investigations by Regional Office personnel. No aerial survey was conducted on the Forest during the FY 1998 field season. On-the-ground investigations are annually conducted on the Douglas, Brush Creek/Hayden, and Laramie Districts, in association with routine field activities. The Forest accomplished 50 acres of mistletoe control by girdling overstory trees in a lodgepole pine plantation.

##### Mountain Pine Beetle (*Dendroctonus ponderosae* Hopkins)

Mountain pine beetle activity is still prevalent on the Douglas Ranger District. Surveys and control activities were implemented during the summer of 1993, but no other treatments other than salvage have been performed since 1994. The other Districts are experiencing normal, endemic beetle activity, but many tree stands are highly susceptible to attack. This is due to the large diameter of the overmature trees (8"+) and low elevations, where the climate is favorable to support beetle populations.

##### Lodgepole Pine Dwarf Mistletoe (*Arceuthobium americanum*, Nutt.ex Engel.)

Dwarf mistletoe is widespread throughout the lodgepole pine type on the Forest, which causes mortality, a reduction in growth and quality, and reduced seed production. The Forest treated 50 acres of lodgepole pine for mistletoe during FY 1998.

##### Western balsam bark beetle (*Dryocoetes confusus*), and fir engraver beetle (*Scolytus ventralis*).

Areas of mortality in mixed stands of subalpine fir, Engelmann spruce, and lodgepole pine appears to be continuing in the vicinity of Centennial, Wyoming. Several species of bark beetles, including western balsam bark beetles and fir engraver beetles, in association with Armillaria root rot, may be responsible for this mortality. Mild weather conditions during the past several years seems to have supported this trend.

### White pine blister rust (*Cronartium ribicola*)

Areas of limber pine throughout the Pole Mountain/Vedauwoo area of the Laramie District continue to be infected with white pine blister rust. Signs of the disease have showed up on many new trees, indicating that the disease is increasing. The host plant, Ribes spp. is widespread, and often growing around and under the pine trees. Lightly infected trees can be found among heavily infected individuals, indicating some resistance among the population. It is recommended that dead or dying trees be removed for public safety, while the healthier trees be left to provide a natural seed source for reforestation. Monitoring the incidence of insects and diseases on the Forest will continue, and no change to the Forest Plan is needed at this time.

### **Monitoring Item 45: Land Exchanges**

Monitoring for this item consists of reporting the number of acres that are exchanged with other land owners near or adjacent to the Forest. Land exchanges may be proposed by the Forest Service or by a private party, business, or organization. Land exchanges occur when a proposal is advantageous to both parties, and also meets all legal requirements. One land exchange was consummated during 1998, which involved 2,964 acres. The Forest Plan prediction of completing 160 acres annually (Table III-1, page III-10) is an average goal that was expected to vary greatly from year to year. No changes to the Forest Plan are needed at this time.

### **Monitoring Item 46: Right-of-Way Acquisition**

Monitoring for this item consists of reporting the actual number of rights-of-ways that are acquired on an annual basis. During Fiscal Year 1998, the Forest reported an accomplishment of 19 cases, which is a dramatic decrease from the previous year. No changes to the Plan are needed at this time.

### **Monitoring Item 47: Landline Location**

During Fiscal Year 1998, a total of 10 miles of landlines (property boundaries) were located and marked on the Forest. The Forest Plan Average Annual Output is projected at 25 miles. The reduction in outputs during 1998 was due to a lower level of funding. No change to the Forest Plan is recommended at this time.

### **Monitoring Item 48: Compliance with Terms of Land Use Authorizations and Consistency with the Forest Plan**

Monitoring this Item includes reviewing initial or renewal applications for special use permits to ensure that they are consistent with the Forest Plan. The application may need to be revised, or it may be denied if it is not consistent with the requirements of the Plan. Monitoring also includes inspection of existing uses for compliance with the terms of the authorization.

During Fiscal Year 1998, the Ranger Districts inspected 222 uses, or about 25 percent of the total permitted uses on the Forest. The inspections verified that the uses were either in compliance, or the permittees were advised regarding the work necessary to achieve compliance. No changes to the Forest Plan are needed at this time.

#### **Monitoring Item 49: Compliance with the Terms of Operating Plans (Minerals)**

Monitoring this item consists of reviewing operating plans for minerals extraction to ensure compliance with the requirements of the Forest Plan. This includes inspecting the work performed on the ground, and comparing the activities to the stipulations of the operating plan. During Fiscal Year 1998, a total of 300 mineral operations were examined, and all were in compliance with the operating plans. No change to the Forest Plan is currently needed.

#### **Monitoring Item 50: Demand for Live Green Sawtimber**

During Fiscal Year 1998, a total of 8.89 MMBF of live-green sawtimber was harvested from the Forest, which is 30 percent of the average annual Allowable Sale Quantity of 29.3 MMBF (Forest Plan, page III-8). On October 1, 1998, approximately 15.4 MMBF was under contract, which is 1.6 years of volume scheduled for harvest based on the the 1998 annual harvest. This is a significant decrease from the previous year. When the total volume under contract provides less than 2.5 years of operations for the purchaser, the Forest Supervisor can modify the Timber Sale Schedule of the Forest Plan to ensure that 2.5 years is maintained. Although the Allowable Variance for this item has been exceeded, the entire timber program will be analyzed during the Forest Plan Revision process. Therefore, no changes to the Forest Plan are needed at this time.

### **X. NEED TO IMPROVE MONITORING OR IMPLEMENTATION**

The first year of Monitoring the Forest Plan occurred during 1986. It was determined that the management Standards and Guidelines in the Forest Plan were being followed, and most of the Average Annual Projected Outputs listed on Table III-1 were being achieved. No changes to the Plan were recommended by the ID Team at that time.

Various problems with some of the methods used for monitoring were discovered, however. The major concern was the inconsistency of data collection and reporting among Ranger Districts. The other concern was that some items were not suitable for Monitoring, or the information collected did not achieve the desired results. These Monitoring Items were adjusted by Amendment Number 4 to the Forest Plan, approved July 14, 1987. This amendment improved Chapter IV, Monitoring and Evaluation, of the Plan to make the direction more clear and easier to implement.

Fiscal Year 1998 was the thirteenth year of Monitoring how well the Forest Plan was implemented. The Forest ID Team has identified a few concerns that need to be addressed as a result of the annual monitoring effort. Some of the items can be corrected by improving Monitoring procedures or implementation methods, while others may



require a change to the Forest Plan. In a few cases, the problem may need to be corrected as an outcome of additional scientific research. Most of the complex or controversial changes will be addressed during the analysis process for the Forest Plan Revision.

Section IX,(5) of this report contains a complete description of each of the 50 Items that were monitored during 1998, and the results of that monitoring. The following recommendations were made in order to correct some of the deficiencies that were identified by the Responsible Person for each Item. All the recommended changes consist of adjusting implementation procedures, and will not affect the Forest Plan. The actual accomplishment of these recommendations will depend upon the availability of personnel and funding during Fiscal Year 1999 to perform the necessary analysis, documentation, and coordination of the proposed changes.

#### **Monitoring Item 1: Off-Road Vehicle Damage**

The Brush Creek/Hayden District needs to monitor and report this item during Fiscal Year 1999. This work will be coordinated between the Ranger District and the Forest Recreation Staff Specialist.

#### **Monitoring Item 2: Trail Condition**

The Brush Creek/Hayden District and the Laramie District needs to monitor this item during Fiscal Year 1999. This work will be coordinated between the Ranger District and the Forest Recreation Staff Specialist.

#### **Monitoring Item 9: Wilderness Campsite Condition**

Each Ranger District needs to report the Frissell Condition Class of the sites inventoried for this Item during Fiscal Year 1999, as required in Chapter IV of the Forest Plan. This work will be coordinated between the Ranger Districts and the Forest Recreation Staff Specialist.

#### **Monitoring Item 11: Compliance with Cultural Resource Regulations**

Each Ranger District needs to ensure that all projects on the Forest are completed according to Section 106 of the Historic Preservation Act and associated Forest Plan requirements during Fiscal Year 1999. This work will be coordinated between the Line Officers responsible for both NEPA and Section 106 compliance, and the Cultural Resource Staff Specialist.

#### **Monitoring Item 12: Protection of Historic Sites**

Each Ranger District needs to ensure that all projects on the Forest are completed according to Section 106 of the Historic Preservation Act and associated Forest Plan requirements during Fiscal Year 1999. This includes allowing the Forest Para-professionals the necessary amount of time to complete reports prior to project

implementation. This work will be coordinated between the Line Officers responsible for both NEPA and Section 106 compliance, and the Cultural Resource Staff Specialist.

### **Monitoring Item 31: Restocking of Harvested Areas**

Each Ranger District needs to ensure that this item is monitored and reported for Fiscal Year 1999. In addition, a treatment prescription shall be prepared by a certified silviculturist for each harvest unit that is not adequately stocked within the five-year period. A list of sites and the planned course of action for each site is on file with other specialist reports for the FY 1998 monitoring effort. The prescribed actions will be implemented as soon as practicable, in order to achieve adequate regeneration. The information derived from this Monitoring Item will help provide data and support for the Forest Plan Revision effort. Each District Silviculturist will accomplish this item, as necessary.

### **Monitoring Item 32: Timber Stand Improvement**

Increased emphasis needs to be placed on the TSI Program to treat the increasing number of acres of overstocked stands, in order to achieve a balance between the annual accomplishment and the annual needs on the Forest. This item has a direct impact on the Long-Term Sustained-Yield Capacity for timber production that was calculated by the FORPLAN computer model for the Forest Plan. The topic of TSI will be addressed during the Forest Plan Revision process. The Forest Silviculture Staff Specialist will coordinate with the District Staff to improve the TSI Program on the Forest.

### **Monitoring Item 44: Forest Insects and Diseases**

Areas that are heavily traveled or used by the public should be surveyed for dead and dying trees that present a safety hazard to the public in the Pole Mountain unit of the Lararmie Ranger District. Any trees that create a potential risk to public safety should be felled and removed, in order to also prevent the spread of additional disease or insects. This needs to be coordinated with the District silviculturist and recreation staff.

## **RESEARCH NEEDS**

An important function of the monitoring process is referred to as Validation Monitoring (see Section IV of this report). This phase of monitoring is used to determine whether the original assumptions and coefficients used to develop the Forest Plan are still accurate and valid. Research activities provide the Forest Resource Specialists with the information necessary to decide whether to retain or to adjust specific Management Direction or Standards and Guidelines in the Plan.

No additional research needs or activities have been identified by the Forest ID Team as a result of monitoring during 1998. The topic of Validation Monitoring and the effectiveness of the Forest Plan will be examined during the Revision process.

## **XI. NEED TO CHANGE, REVISE, OR AMEND THE FOREST PLAN**

The results of monitoring implementation of the Medicine Bow National Forest Land and Resource Management Plan for Fiscal Year 1998 have been analyzed by the Forest Interdisciplinary Team and Staff Specialists. Based on this review, it was determined that the intent of the Forest Plan is being met by most resource programs during implementation of site-specific project activities.

Implementation and monitoring of project activities needs to be as effective as possible, in order to protect the resources and resource uses of the land. The results of the thirteenth year of monitoring and evaluating implementation of the Forest Plan revealed minor deficiencies in relation to several of the Monitoring Items. Subsequently, recommendations have been made to improve either Forest Plan monitoring, or implementation of some project activities, which are described in Section X of this report. Any major changes to the Forest Plan will require a comprehensive analysis and evaluation, and will be addressed during the Forest Plan Revision Process (refer to Section VI of this report).

## **XII. REVIEW OF PREVIOUS YEAR RECOMMENDATIONS**

In response to the 1991 Evaluation Report, several comments were received from the public regarding the recommendations made by the ID Team for individual items in the Report. The main concern expressed by the commenters was that there was no information to answer the basic question, "Did we comply with what we said we were going to do (Forest Plan, page IV-12)?" The commenters wanted to know if the recommended activities were accomplished. Subsequently, Section XII was added to the annual report. The following list of recommendations was developed by the ID Team and recorded in the 1997 Annual Monitoring Report (pages 47 and 48). Under each recommendation is a description of what was accomplished for that item during Fiscal Year 1998.

### **Monitoring Item 4: Dispersed Campsite Condition**

**Recommendation:** The Brush Creek/Hayden District needs to monitor this item during 1998. This work will be coordinated between the Ranger District and the Forest Recreation Staff Specialist.

**Accomplishment:** This item was accomplished.

### **Monitoring Item 9: Wilderness Campsite Condition**

**Recommendation:** Each Ranger District needs to monitor this Item during Fiscal Year 1998, as required in Chapter IV of the Forest Plan. This work will be coordinated between the Ranger Districts and the Forest Recreation Staff Specialist.

**Accomplishment:** This item was not accomplished by any of the Ranger Districts.

### **Monitoring Item 32: Timber Stand Improvement**

Recommendation: The Forest needs to place a higher emphasis on the TSI Program, in order to address the increasing number of acres that require treatment. The Program should be dramatically expanded during the next several years, in order to achieve a balance between the annual accomplishment and the annual needs on the Forest. This item has a direct impact on the Long-Term Sustained-Yield Capacity for timber production that was calculated by the FORPLAN computer model for the Forest Plan. The topic of TSI will be addressed during the Forest Plan revision process. The Forest Silviculture Staff Specialist will coordinate with the District Staff to improve the TSI Program on the Forest.

Accomplishment: The number of acres treated during 1998 was 22 percent less than the previous year. There is an increasing deficit in the number of acres that need to be treated on the Forest. This item needs to be closely scrutinized and evaluated during the Forest Plan Revision process.

SUMMARY: Some of the changes recommended in Section X of the 1997 Evaluation Report were not accomplished during 1998 for a variety of reasons. The items deemed as necessary to "protect, restore, or enhance the environment (40 CFR 1500.1(c))," by the pertinent Forest Resource Staff Specialist are reiterated in Section X of this Report. The final accomplishment of any recommended items during 1999 will depend upon overall Forest priorities and the availability of personnel and funding to perform the required activities.

### **XIII. LIST OF PREPARERS**

The following list displays the name and resource program of the Forest Leadership Team, and also the Forest ID Team members that contributed the information and evaluation for the Monitoring Items.

#### **NAME FUNCTIONAL RESOURCE AREA**

##### **FOREST LEADERSHIP TEAM**

Jerry Schmidt FOREST SUPERVISOR

John Ayer Director - Business Management Group

Lee Kramer Director - Renewable Resources

Mike Murphy Director - Program Support Group

Kim Vogel Director - Recreation and Public Service

##### **STAFF SPECIALISTS**

John Byars Lands - Special Uses

Dave Carr Forester - Timber

Tom Cartwright Wildlife Biologist

Kenna Van Personnel Assistant

Greg Eaglin Fisheries Biologist

Marv Froistad Civil Engineering Technician

Tommy John Soil Scientist

Susan Kay Budget Analyst

Larry Lindner Monitoring Specialist/Editor

Barbara McKown Accounting

Bob Mountain Range Management

Mary Sanderson Recreation

Sue Struthers Archeologist

Carl Sumpter Land Surveyer

Jeff Tupala Landscape Architect

Kenna Van Personnel

Kirk Wolff Hydrologist

## **CERTIFICATION**

I have reviewed the Annual Evaluation Report for the Medicine Bow National Forest that was prepared by the Forest Interdisciplinary Team for Fiscal Year 1998. I believe that the results of Monitoring and Evaluation, as documented in this Annual Report, meet the intent of both, Chapter IV of the Forest Plan, and current Regulations (36 CFR 219.12(k)).

The Forest ID Team and Leadership Team have not identified any significant changes in conditions or demands of the public that would change the goals, objectives, or outputs of the Forest Plan (36 CFR 219.10(g)) prior to completion of the scheduled Revision. Therefore, I have determined that an Amendment to correct any identified deficiencies of the Plan is not immediately necessary.

I have also considered the recommendations made by the ID Team regarding the proposed changes to the Monitoring procedures or implementation methods, as described in Section X of this report. I concur that the recommended changes are necessary to improve the effectiveness of the Forest Monitoring Program or implementation of resource projects on the ground. These changes will be made by Forest personnel, as funding allows, and will comply with the appropriate analysis and documentation procedures of all laws and regulations, including the NEPA.

I concur with the findings of the 1998 Annual Monitoring Evaluation Report for the Medicine Bow National Forest . This is not an appealable decision, according to 36 CFR 215.7, "Decisions Subject to Appeal."

JERRY E. SCHMIDT Date

Forest Supervisor